



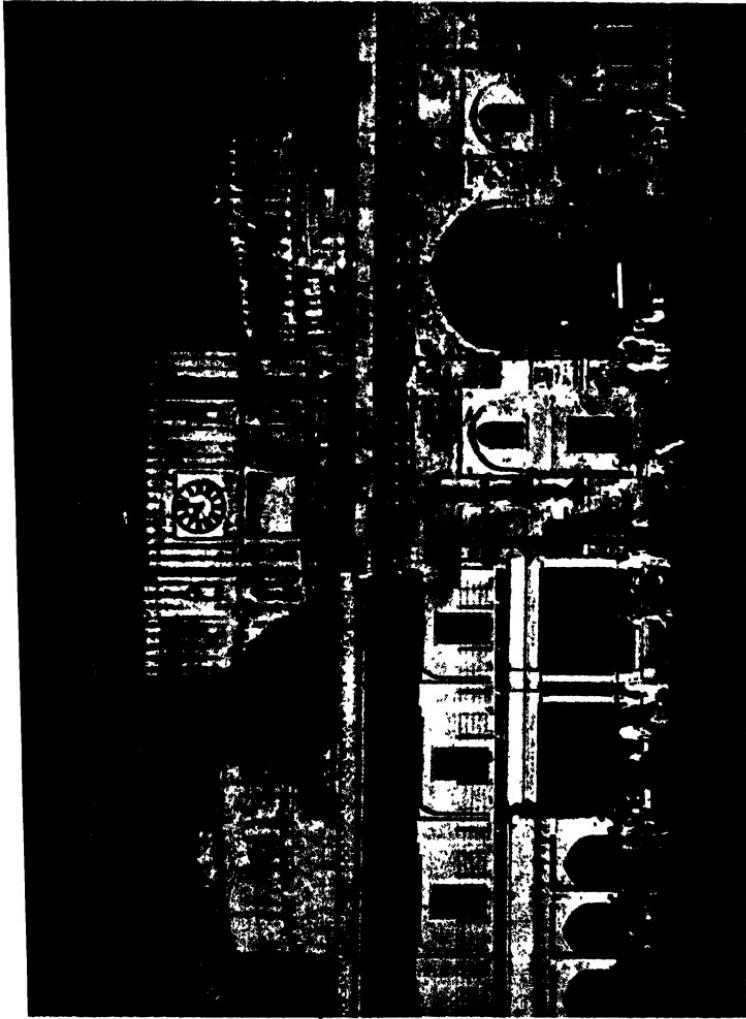
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The Tower of Bhadra

AHMEDABAD

(Being a Compilation of
Articles contributed by Rotarians and others
on various subjects prominently bringing out
many interesting details pertaining to and
connected with the City.)

COPIOUSLY ILLUSTRATED

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FOREWORD

It was about three years back, that is, two years after the Rotary Club of Ahmedabad was started, that the Club decided to publish a book which might contain in narration and in pictures, whatever was worth knowing about the city of Ahmedabad. This was an attempt to emulate the example of the Bombay Rotary Club, which had published a similar book on 'Bombay.' When, however, it was known that the demand for that book did not reach the expectations of the Bombay Rotary Club, the enthusiasm of the Rotarians of Ahmedabad abated. The invitation of the Conference to Ahmedabad, however, revived the dormant idea; and old files were searched out for articles that were lying there all the time. Rotarians who had promised to write but had not done so were requested to hurry up; the press that had done part of the work was expedited to finish it; and here is the result. The object of the Club is mainly to present to the delegates a volume which may supply to them information on every important matter pertaining to the city.

In the succeeding pages will be found the political history of the city from 1411 up to date. How the city which was at one time the capital of an independent Sultanat of Gujarat passed into the hands of the Moghals in or about 1573, how the Mahrattas happened to come into its possession in or about 1763, and how from the year 1817 the British took it over, will be found in that brief history. Another article narrates how the civic government of the city commenced in 1834 by the then inhabitants

voluntarily taxing themselves and repairing the town walls. It tells us how gradually the local self government developed till the city which was given the odious name of 'Girdabad' by Jehangir has been rendered practically dustless in recent years. A third article tells us how the Textile Industry, which has been so successfully developed, and which has consequently brought to the city the prosperity that has raised it to its present size and importance, had its foundation laid in the year 1859 at the hands of the late Rao Bahadur Ranchhodlal Chhotalal, c. i. e., how rapidly its progress was accelerated by the world-war of 1914-18 and its aftermath, till in recent years the installation of up to date machinery in most of the mills has made it possible for them to produce cloth of the finest texture and quality such as have rendered it unnecessary for India to import similar goods from foreign countries. In brief, it tells us how the city has truly and deservedly earned the name of 'Manchester of India.'

The progress of education forms the subject of another article which shows at what stage the primary, secondary and higher education in the city at present stand. The story of the progress of 'Women' in Ahmedabad has been told by Lady Vidyagauri Nilkanth, the first lady graduate of the city and of the whole of Gujarat.

Then come a series of articles showing how the public utility services such as the Railway, the Post and Telegraph, the Telephone and the Electric supply developed in the city, and how rapidly the residents of the city have taken to the use of the up to date amenities afforded by these services.

The book concludes with two interesting and instructive articles, one of which describes the plant, animal and bird life in and around the city; and the other gives the minutest details of the old monumental structures of the Mohammedan period, and analyses the style of each, whether Hindu, Indo-Aryan or Saracenic or a blend or fusion of two or all three of them.

I must take this opportunity to congratulate the Rotarians who have so readily responded to the call of the Club and contributed to this compilation, and to heartily thank those of the writers who are not Rotarians for giving the benefit of their knowledge to all those who will read this volume.

Mention requires to be made of Niharika, the Club of Ahmedabad Camerists, whose members have taken the nice photographs of places of interest, which have helped to make this book more attractive.

This preface cannot be concluded without a word of appreciation for the neat and quick printing work executed by the Kumar Karyalaya and for the excellent artistic get-up of the volume.

Ahmedabad

10-12-1940

A handwritten signature in black ink, appearing to read "Krishnalal". It consists of stylized, fluid letters with a prominent horizontal stroke and a circular flourish at the end.

PRESIDENT
Rotary Club of Ahmedabad

CONTENTS

I History of Ahmedabad	<i>Rotarian J. C. Cama</i>	3
Ahmedabad Municipality	<i>Rotarian Khan Bahadur Sir M. I. Kadri</i>	23
The Birth and Growth of the Textile Industry at Ahmedabad	<i>Rotarian Kasturbhai Lalbhai</i>	31
Education in Ahmedabad	<i>P. K. Desai</i>	43
Progress of Women in Ahmedabad	<i>Lady Vidyagauri Nilkanth</i>	59
Ahmedabad and the B. B. & C. I. Rly.	<i>J. Castellino</i>	63
The Development of Post & Telegraph Service in Ahmedabad	<i>Rotarian K. L. N. Iyer</i>	71
Development of Telephone Service in Ahmedabad	<i>Rotarian R. Natarajan</i>	77
Electric Supply in Ahmedabad	<i>Rotarian W. U. White</i>	81
Natural History Around Ahmedabad	<i>Harinarayan G. Acharya</i>	97
Architecture of Ahmedabad	<i>Rotarian D. M. Asarpota</i>	117

LIST OF ILLUSTRATIONS

	Frontispiece
1 The Tower of Bhadra	3
2 The Three Gates— <i>Tean Darwaza</i>	6
3 Sidi Sayyad's Mosque with the Tracery Window	1
4 Shahi Bag Palace	15
5 Azamkhan's Old Palace in Bhadra	20
6 Gandhiji's Room in Sabarmati Ashram	22
7 Main Porch of the Ahmedabad Municipal Building	25
8 Municipal Water Works	28
9 Vadilal Sarabhai General Hospital	32
10 Mills of Ahmedabad	36
11 Old Manek Chowk	40
12 New Manek Chowk	44
13 Mass-Drill	48
14 Gujarat Vidyapith	52
15 Municipal Vyayam Vidyalaya	56
16 Sheth Maneklal Jethabhai Library	58
17 Sabarmati River with a View of the Ellis Bridge	64
18 Premabhai Hall	68
19 Mangaldas Town Hall	70
20 Friday Fair	78
21 A Modern Mosque	84
22 Rani Sipri's Mosque	90
23 Balcony of Rani Sipri's Mosque	98
24 Shah-i-Alam	104
25 Dariya Khan's Tomb	110
26 Shaking Tower	116
27 Step-Well at Adalaj	122
28 Tracery Window in Sidi Sayyad's Mosque	128
29 Hathisingh's Temple	134
30 Balcony of Hathisingh's Temple	140
31 Swaminarayan Temple	146
32 A Balcony Showing the Old Woodcarving	148
33 Sardar Vallabhbhai Bridge over the Sabarmati	

The Three Gates



Rotarian J. S. Cama, B.A., LL.B.

HISTORY OF AHMEDABAD

THE history of Ahmedabad could be well divided into four periods; the first under the Independent Sultanat of Gujarat (1411–1573); the second under the Moghals (1573–1753); the third under the Marathas (1753–1817); and lastly from 1817 under the British rule.

After the death of his grand father, Prince Ahmad ascended the throne of Gujarat, on 10th January 1411, at the young age of twenty, and commenced his illustrious career, the achievements of which have given him a place among the most famous rulers of Indian history. His reign of 32 years, his successful expeditions against his Rajput and Muslim neighbours, and, above all, his foundation of the city of Ahmedabad as his new capital, all combined in the process of time to invest him with eponymic honours. King Ahmad Shah, therefore, may be justly regarded as the second founder of a dynasty known as 'Ahmad Shahi' which not only maintained a prosperous sway over Gujarat for well-nigh two centuries, but which has also left behind it a large number of architectural monuments, of supreme beauty and perfection as its heritage for posterity to admire and study.

More than on either his wars and conquests or his administrative system, the title of King Ahmad Shah to immortal fame in the pages of Indian History rests, on his foundation of Ahmedabad, the great city on the bank of river Sabarmati, which he made his new capital, and, which has maintained through the vicissitudes of over 528 years its position as the metropolis of the Province of Gujarat.

The Mirat-i-Ahmadi states that it was on the 27th February 1411 that Ahmad Shah with the advice of his spiritual adviser Saint Shaik Ahmad Khattu of Sarkhej laid the foundation of Ahmedabad in an open and spacious area in the immediate vicinity of the old town of Asawal and to the east of Sabarmati. The imposing river bastion called the Manek Buraj which stands at the head of the Ellis Bridge, is said to be the place where the foundation of the city was laid. The foundation of the city of Ahmedabad was laid by four Ahmads, (Sultan Ahmad Shah, Shaik Ahmad Khattu, Gazi Ahmad Jud of Patan, and Malik Ahmad), who were noted for their piety and righteousness. The four Ahmads are said to have been helped by twelve Babas or Faqirs who took part in the foundation ceremony of the city.

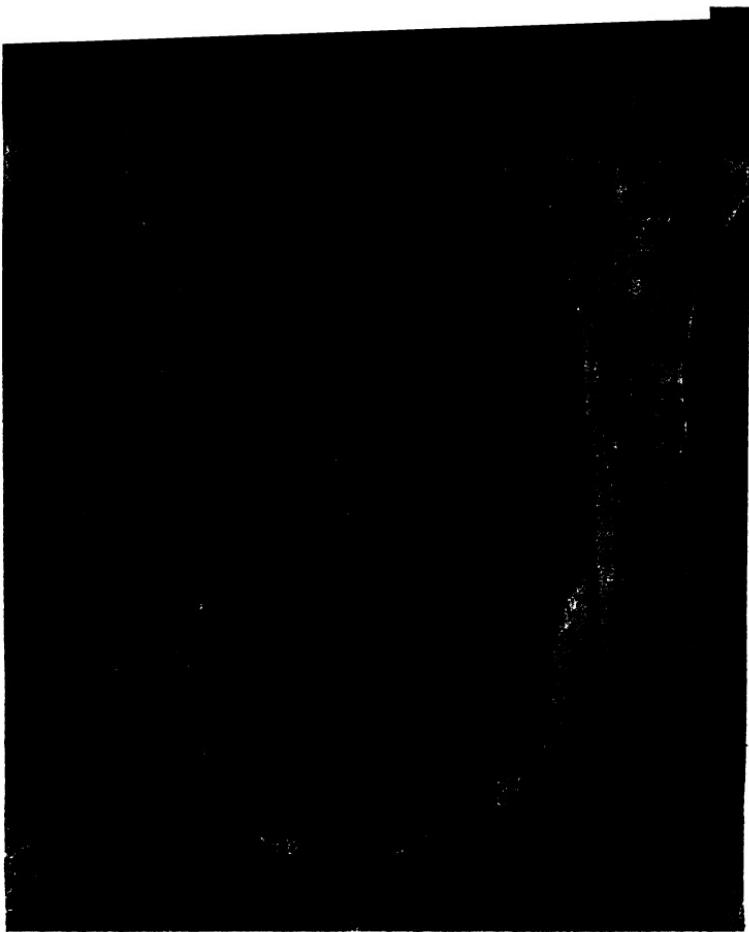
The descendants of Qazi Ahmad Jud of Patan have been living in Ahmedabad for many centuries and our Rotarian Sir Mahbub I. Kadri claims to be one of the present representative of this historic family.

The imposing Bhadra Tower of Ahmedabad and Bhadra Citadel may fitly be considered as part of the oldest fortifications of the city, erected soon after the foundation of the city. They form a massive structure and may take rank with the same type of buildings as the Tower of London and the French Bastile. According to Firishta, the city walls of Ahmedabad were built in the year of grace 1487 in the reign of Mahmud Begda, and justly take rank among the most important historic relics of the greatness of the Muslim rule in the capital of Gujarat. The walls have a circumference of six miles, and had, according to Mirat-i-Ahmadi, 12 gates, (but to-day there are 18 gates), 189 towers or bastions and

over 6000 battlements. Built of burnt brick and mortar, they are exceptionally strong. Though their utility for military purposes is now negligible, these ancient city walls serve a tangible bond of association between the present and the historic past.

The new metropolis of Gujarat, which is about 173 feet above sea-level, continued steadily to grow in size and population for nearly two centuries and the work of adorning it with architectural monuments worthy of its importance was carried out, with unremitting energy, both by the Sultans and their nobles. By the end of the sixteenth century, therefore, Ahmedabad came to be regarded as the 'finest and largest city of India, or even perhaps of Asia'. The Muslim historians of the period were lavish in their praises. The author of *Haft-Iqlim* in 1593 writes that "Ahmedabad is unique in the whole of India in matter of neatness and flourishing condition, and it is superior to other cities in the excellence of its monuments. It would be no exaggeration to say that in the whole world there exists no town so grand and beautiful. Its streets are spacious and well-arranged, unlike those in other towns, its shops with two or three storeys each are finely built, and its inhabitants both men and women are graceful and delicate".

Historian Ali Muhammad Khan-the author of *Mirat-i-Ahmadi* who wrote in the middle of the eighteenth century on the glories of Ahmedabad says, "And in truth a city with such beauties is rare, whence it has been called the 'Beauty of Cities', and the 'Bride of the Kingdom'. Precious stuff are manufactured here and exported to various parts of the world. In particular, the art of weaving golden and silken stuffs, such as



Sidi Syed's Mosque

Kinkhab, Velvet, Gauze and embroidery flourishes here owing to suitable climate, and these stuffs are unequal in India for their colour and beauty".

The historian Abul Fazal in *Ain-i-Akbari* describes Ahmedabad as "a noble city in a high state of prosperity which for the pleasantness of its climate, and its display of the choicest products of the whole globe is almost unrivalled".

Vincent Smith says "Ahmedabad was particularly rich in noble buildings, and during the time of its glory undoubtedly was one of the handsomest cities in the world". Elphinstone opined that "Ahmedabad is still one of the greatest cities in India both from the number of its inhabitants and the magnificence of its buildings". Thus Ahmedabad during her glorious past was undoubtedly the land for poets' conjurations and painters' canvas.

We would undoubtedly with our modern notions of beauty and splendour consider these praises lavished upon Ahmedabad as absurd and extravagant eulogy. But it must be remembered, however, that the glories of Delhi and Agra were, during the fifteenth and sixteenth centuries, yet incomplete, and Ahmedabad stood without a rival among the cities of India for the beauty of its monuments, its fine streets and spacious Mohallas and the wealth and the number of its population.

Some idea of the size and extent of Ahmedabad and its suburbs at the height of its medieval greatness may be obtained from the fact, which is attested by all authorities, that in the palmy days of the Sultanat the city could boast of no less than 360 or 380 Puras or suburbs, each of which was surrounded by a wall. Several of these Puras were within the city walls, but in the

course of time the greater number of them grew up outside the walls. The present deserted suburb of Usmanpur had at least one thousand shops, and was peopled by traders, and artisans as also by civil and military servants, both Hindus and Muslims.

Judging, however, from the large number of its suburbs and the accounts of the city given by various historians, it must have been larger than that of any other capital city in the fifteenth and sixteenth centuries. The statements of Forbes and Hope that the city had a population of two or three million souls seem to be grossly exaggerated as they are not supported by historical references. Firishta says, that the principal streets of the city were sufficiently wide to admit of ten carriages abreast. Ahmedabad and its suburbs were by the end of the sixteenth century adorned with an immense number of Masjids though it appears that Abul Fazal was misinformed, or exaggerated when he wrote that there were a thousand stone Masjids in the capital. Mirat-i-Ahmadi puts the number at 450 or 500.

It is stated that from the Christian Era even up to the present time, the inhabitants of Gujarat were the most commercial and enterprising of all the races of India. Before the beginning of the sixteenth century the silks, gold and silver brocades, Kinkhab, Jari and Kasab embroidery and cotton cloth of Ahmedabad were in demand in every Eastern Market from Cairo to Pekin. On the coast of Africa they were exchanged for gold often at a hundred times their real value. There was hardly any nation or merchandise in all Asia not to be found in Ahmedabad. Ahmedabad was a vast manufactory of silks and calicoes, of gold and silver brocades, and

rich silk carpets. It was the head-quarters of manufacturers and in embroidery work it was not inferior to Venice or Sicily for the rich silk and gold stuff curiously wrought with birds and flowers. The great commercial predominance and prosperity which Ahmedabad enjoyed in those days made Abul Fazal remark that it was "the mart of the world." Ahmedabad was famous not only for the ornamentations of the silks but also for the manufacture of beautiful and durable mats and matresses, paper, pottery works and was also the home at one time of some of the best gold and silversmiths, and of the finest and most skilful weavers, carvers in wood, metal, stone and ivory.

It is recorded that Ahmedabad was the centre of exchange business and in her palmy days of prosperity and plenty it is said that there were a hundred persons who were worth more than a crore of rupees, while today there are less than five.

In these days of Prohibition, it may be interesting to know that at least one Sultan of Gujarat, Viz. Muzaffarshah Halim, son of the great Sultan Mahmud Begda was a teetotaler, who strictly observed religious injunctions against intoxicating drinks. It is said that one day his favourite horse was seized with grips, and when all the remedies failed, he recovered on being given pure spirit. The Sultan coming to know about it "bit the finger of sorrow with the tooth of regret", but he never rode that horse again. James Douglas says about this Sultan that he would have nothing to do with intoxicants, and that this was the golden age of Gujarat for teetotalism.

In the reign of Muzaffar the Third, the Independent Sultanat of Gujarat came to end. As the conditions of

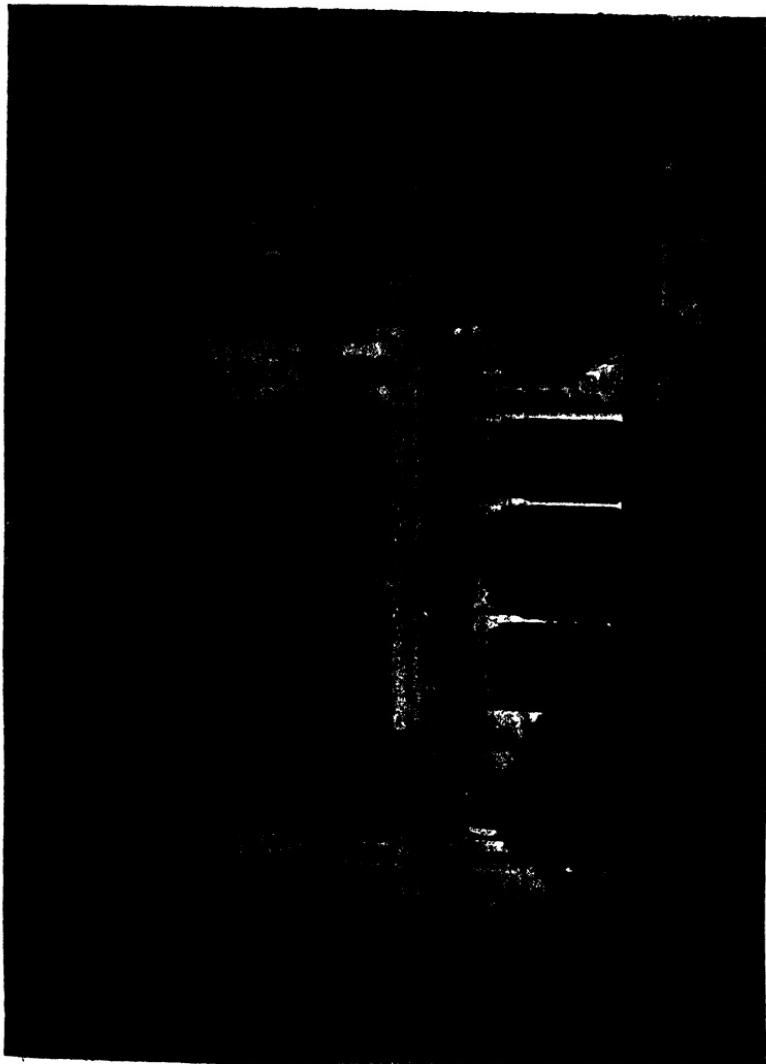
the Province were chaotic, Itimad Khan invited Akbar to interfere, and put an end to political confusion prevailing at that time. Akbar started on the Gujarat expedition and conquered it in 1573, and was twice in Ahmedabad, once for a fortnight, and then again for eleven days. For a century and a half the independent Sultan of Gujarat held a commanding place among the powers of Hindustan, and they have left behind them memorials of greatness in the architectural monuments at their capital which still command our admiration after the lapse of more than four centuries. The conquest of Gujarat by Akbar in 1573 was final with the exception when Muzaffar the Third recovered his throne for a few months (1583–84), and the Province of Gujarat with its fertile soil and extensive sea ports for centuries enriched by foreign commerce and known as 'one of the richest kingdoms in India' remained under the charge of Moghul Subas or Viceroys until it passed into the grasp of the Marathas about the middle of the eighteenth century for about 64 years.

AHMEDABAD UNDER THE MOGHULS

The Moghul sway was at least a guarantee for peace and order. Emperor Jehangir visited Ahmedabad in 1617 but he did not carry happy impressions about the place. He himself fell ill, and in his memoirs described Ahmedabad with Epithets of "Girdabad", "Simumistan", "Bimaristan", "Zukumdar" and "Zahannamabad".

It will be of interest to note that during the visit of Jehangir in Ahmedabad, two important documents were signed, sealed and executed between him and Sir Thomas Roe, the British Ambassador from English Court of

Shahi Baug



James I, which gave the British all rights and facilities to trade and live in India. In one of the documents written by Jehangir to James the I, the Moghul Emperor states "Upon which assurance of your Royal Love I have given my general command to all the kingdoms and ports of my dominions to receive all merchants of the British nation as subjects of my friend. That at whatsoever place they chose to live they may have reception and residence to their own content and safety, and at whatsoever port they shall arrive that neither the portugese nor any other shall dare to molest their quiet. I have commanded all my Governors and Captains to give them freedom answerable to their own desires to sell, buy and transport into their countries at their pleasure". In another document Jehangir says, "Whatever goods come from your kingdom hither unto me of any kind or shall go to you from my kingdom shall receive no hindrance nor impediment but shall pass with honour and friendship." These are not ordinary documents, but are of great importance from the British point of view. The first beginning and the seeds of the foundations of the trade relationship between Great Britain and India were actually sown in Ahmedabad in the reign of Emperor Jehangir.

A mint for gold coins was also opened in Ahmedabad during Jehangir's reign.

In the year 1618, Jehangir appointed Shah Jehan as the Viceroy of Gujarat where he spent the prime of his life at Ahmedabad with Mumtaz Mahal. James Douglas in his "Western India" says that "It is not for nothing that thou (Shah Jehan) art in Ahmedabad. Is it too much to suppose that it was here that the Master Builder drunk in the elements of his taste which was to display such

gorgeous results elsewhere; the bud was here, the blossom and fruit to be in Agra. Everything has a beginning, Greece before Rome, Damascus before Cairo, Agra follows Ahmedabad."

There was a great famine in Gujarat during the vice-royalty of Shah Jehan, 1621–22, and as a relief measure Shah Jehan ordered Shahi-Bag to be made, and it ranked as one of the best gardens of Gujarat and India in those days. But the irony of fate was that Shah Jehan did not place his foot in the garden. Gujarat owing to its fertile and alluvial soil was well-known in the past as the "Garden of India". Sultan Mahmud Begda was very fond of gardens, and was responsible for fine gardens in and around Ahmedabad and in Gujarat. Thevo says that there were gardens in the city, and the bungalows were covered by trees. If anybody were to see it from a height it gave the appearance of a forest. The Shahi-Bag in Ahmedabad, during the days of Shah Jehan, and Aurangzeb, was full of roses, figs and mulberries. Ahmedabad's Tamarind jelly was sent to Persia and Arabia, and Ahmedabad was then noted for its fine ginger, loaf-sugar, boras, guvava, figs and falsas.

Aurangzeb was also one of the Viceroys or Subas at Ahmedabad for two years, and then he was followed by Princes Dara and Murad. It was always the seat of the Subas of the Moghuls and Marathas. The Kotwal was the chief Police Officer, and the Kaji was the Judicial Official.

From 1573 up to the death of Aurangzeb in 1707, Ahmedabad flourished as a prosperous city, but after that, the sun of its prosperity gradually began to decline till it reached the very nadir in the days of the Marathas.

On receiving the information of Aurangzeb's death,

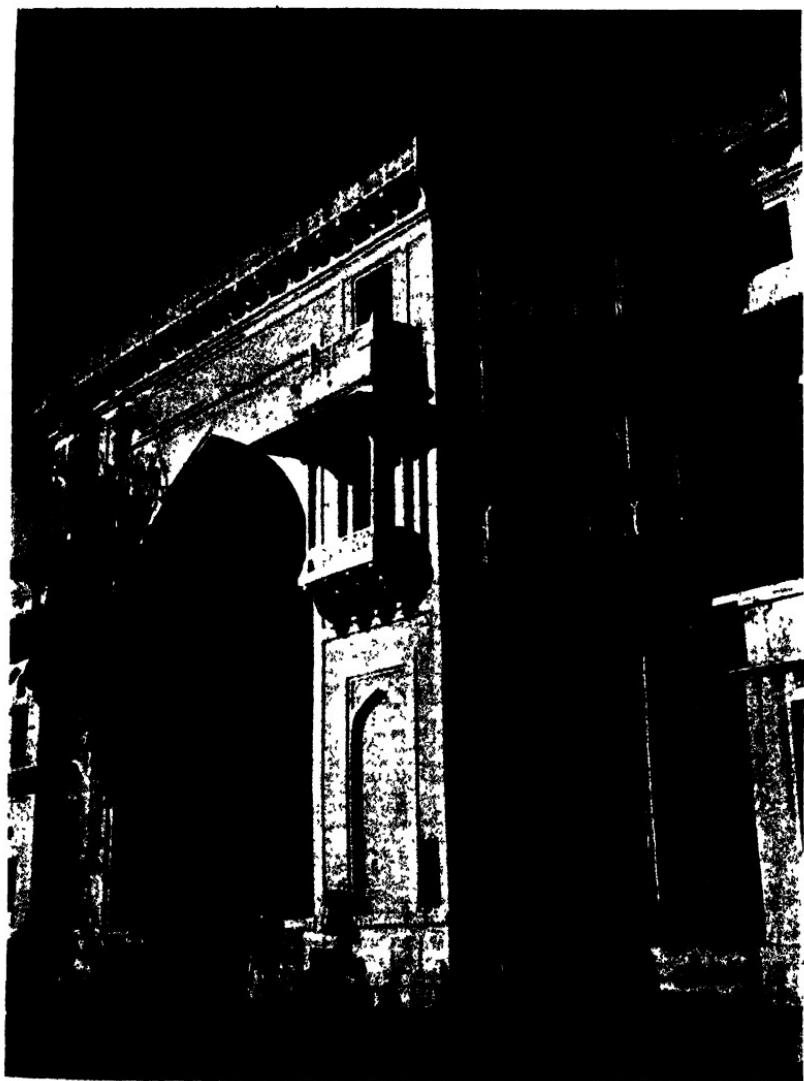
the Maratha army under the leadership of Balaji Vishwanath marched on Ahmedabad via Godhra, but ultimately withdrew on receiving Rs. 210,000 from the Muslim Viceroy.

The rulers after the death of Aurangzeb were weak, and the Subas or the Moghul Viceroys were busy fighting amongst themselves and with the Marathas, and there was chaos and disorder in the country. The decline of Ahmedabad had set in, its trade and commerce was being gradually ruined, and people left the city and went to other places of safety. In 1714 there was a serious Hindu-Muslim riot in the city. Ahmedabad was flooded by heavy rains, merchants fought, and Hindus' shops were looted by Muslims. In 1714 the Marathas ravaged the country round Ahmedabad up to its very gates. Many traders and artisans were so ill-treated that they left their native land and wandered into foreign parts.

In 1733, the Maratha army marched on Ahmedabad. The year 1737-38 was very bad for the city. It was bombarded and even looted by the Marathas during the Moghul viceroyalty of Mominkhan, and half of it was given to the Marathas. In 1742 there was a fight between the Muslims and the Marathas, and the Muslims had the better of it, but at last on 2nd April 1753 Ahmedabad came under the full jurisdiction of the Marathas, and the Moghul rule ceased.

AHMEDABAD UNDER THE MARATHAS

It is said that during the reign of the Marathas, Ahmedabad to all purposes was divided half into the hands of the Peshwas, and the other half into the hands of the Gaekwar, but the Peshwas carried greater jurisdiction. In



Old Palace, Bhadra

1756 as there was great discontent in the city, and as the city walls had broken down in several parts owing to a severe rainfall, Mominkhar II marched on Ahmedabad, and defeated the Marathas; but his victory was short-lived, because on 27th February 1758 he was forced to give up Ahmedabad to the Marathas on a consideration of a lakh of rupees and Cambay to boot.

There was one representative in Ahmedabad on behalf of the Gaekwar, but the Peshwa also nominated his Suba in the city. During the rule of 64 years of the Marathas, the condition of Ahmedabad went from bad to worse, and there was great disorder in the city. According to a treaty arrived at between Fathesingh Gaekwar and the English, it was decided that British should aid the Gaekwar in getting for him Ahmedabad and so General Goddard marched on Ahmedabad with an army, and captured Ahmedabad after a fight in which he lost 120 soldiers including 14 English. General Goddard then gave charge of Ahmedabad to Fathesingh Gaekwar. But according to the treaty of Salbai, Ahmedabad was given over to the Peshwas. It was however again handed over to the Gaekwar on temporary lease-hold by the Peshwas for monetary considerations. In 1817 the Peshwa entered into an agreement to hand over permanently the lease of Ahmedabad to the Gaekwar for a sum of about Rupees five lakhs. It was further decided by this agreement that the Gaekwar should pay this amount to the English which was due to them from the Peshwa. In the November of the same year, that is 1817, it was decided that the English should be given the same rights which were granted to the Gaekwar by the Peshwas for the maintenance of the army, and that the Gaekwar should

hand over Ahmedabad to the British and take the Paragna of Dabhoi. According to this agreement, Mr. Dunlop who arrived in the city as the first Collector in the end of November 1817 took charge of Ahmedabad, and the Maratha rule in Ahmedabad came to an end, and Ahmedabad came into the hands of the British.

Forbes who visited Ahmedabad in 1781 writes that “the Imperial city of Ahmedabad... one of the largest capitals in the East—now exhibits solitude, poverty and dissolution. You now behold the most heterogeneous mixture of the Moghul splendour and Maratha barbarism. Until this visit to Ahmedabad, I had no conception of the extent of the oriental magnificence of the palaces, and the splendid chambers described in the Arabian Nights’ Entertainments appear no longer overcharged and fabulous. The most splendid palaces of Ahmedabad were in too ruinous a state during my visit to furnish a sufficient description.”

The magnificent remains of the Moghul splendours in Ahmedabad and Gujarat, it is said, greatly suffered owing to the oppression and advantages taken by the Maratha Pandits and the Governors. Their severe exactions rendered the district of Ahmedabad, once so flourishing and delightful, almost a desert, and thousands of industrious subjects annually left to safe protection under milder Governments.

“The City” says James Forbes, “which abounded with all kinds of traders, artisans and travellers has today become poor and everything is nil.”

AHMEDABAD UNDER THE BRITISH RULE

When the British took over Ahmedabad in 1817,

its population was said to be 80,000. The city walls were repaired in 1832 at a cost of Rs. 250,000. In 1826 two Gujarati schools were started, and probably the earliest effort of organized Municipal Self-government in the Western Presidency was made in Ahmedabad in 1833. Schools for boys and girls were established and signs of order and improvement were clearly noticeable. By about 1870, mills started, schools and educational facilities increased, the B. B. & C. I. Railway was started, and Ahmedabad developed trade and commerce and began to be prosperous.

The Mohomedan architecture of Ahmedabad holds an important place in the history of fine arts in India.

The architecture of Ahmedabad is the combination of Hindu and Muslim styles which explains why the Muslim Architecture assumes in Gujarat a distinct local form as in Mandu, Jaunpur, and Bijapur.

The principal architectural beauty of Ahmedabad mosques is said to rest on three features—viz., the exquisite device by which light is introduced into the body of the building, the graceful minarets, and the delicate tracery.

It will be of interest to note that the Mahajans or the Guilds of Ahmedabad have played an important part in the social and practical life of the city. These guilds have given strength to its trade and commerce. Even today the Mazdur Mahajan or the Ahmedabad Textile Labour Association, established over two decades by Mr. Gandhi, and the machinery of arbitration evolved, are responsible for the industrial peace and prosperity of the city.

Gradually mills in Ahmedabad began to come up till it reached the maximum number of 81, and the city earned the name of Manchester of India. However, on

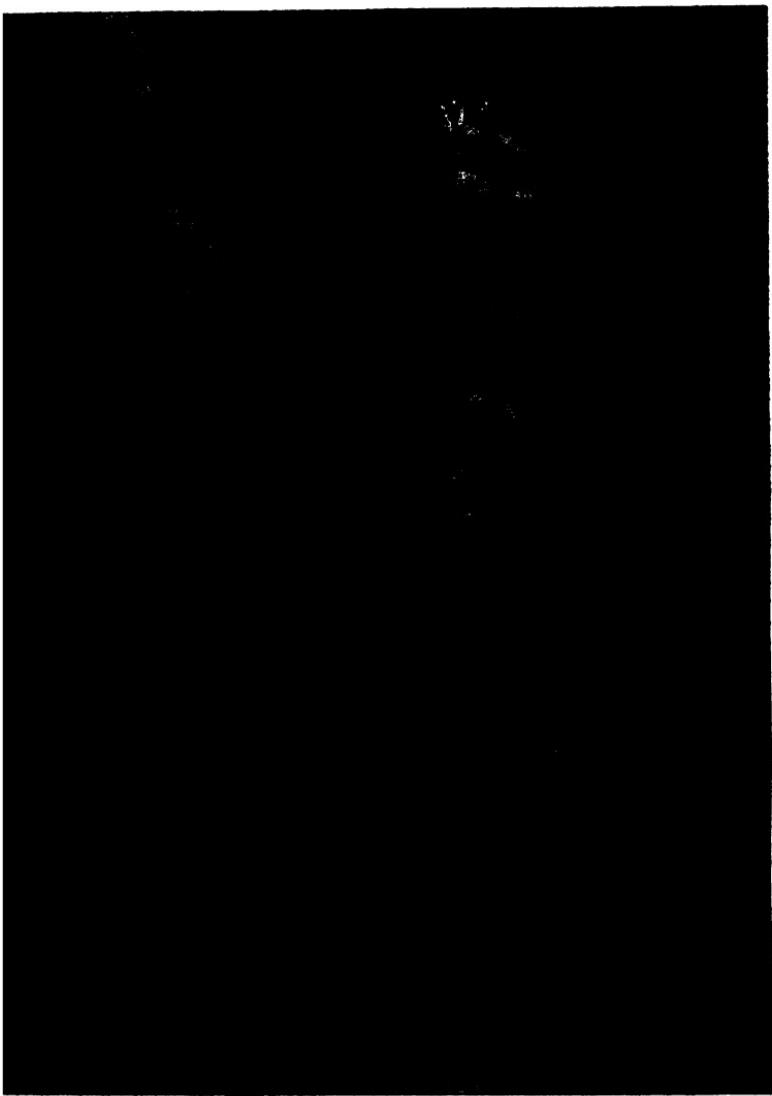
account of various disadvantages and the accumulated burden on the Ahmedabad Industry, its progress has been checked and gradually more and more units are either closing down or are being scrapped. Today there are 71 mills working in the city.

The growth of the Textile Industry on modern lines in Ahmedabad presents features which are unique and is the evidence of the special mould of character, temperament and qualities of the citizens of Ahmedabad. Wise, enthusiastic, calculative, economical, hard-working and simple are some of the traits of Ahmedabad-citizens.

What is true of the individual is also true of the social, educational, political and economic life of the city. In matters of social reform, Ahmedabad can give an account of itself in a line with any other city in India. It has a number of clubs for men and women. It has a number of institutions for the spread of knowledge among, and help to, the poor, and has a number of educational institutions. It has today become a great educational centre, and will be still more so in fullness of time, and might well become the seat for a University for Gujarat. Even in literary field, Ahmedabad has much to its credit. Fine arts like painting, drawing, music and even dancing are not neglected here. Municipal progress during the last two decades has been marvellous.

The population of Ahmedabad barring the few Christians, Parsis, Sikhs and Jews, mainly consists of the Hindus and the Muslims, and is nearly five lakhs. Today the population of Hindus is much greater than the Muslims, but in the 18th century the Muslims out-numbered the Hindus. Today, however, the city's death mortality is rather high.

Gandhiji's Room in Sabarmati Ashram



The establishment of Mr. Gandhi's historic Ashram at Sabarmati, and his work therein, and his historic Dandi March of 1930, his contribution to Indian nationalism and Nation-building and his leadership from 1917 onwards are matters which cannot be dissociated from his stay in this city, and have added very substantially to the historic greatness of Ahmedabad.

Ahmedabad was well-known during the times of the full splendour of the Independent Sultanat and of Great Moghuls as "Share-e-Muazam," namely a 'Great City.' That was no mere oriental hyperbole but testified to the great reputation which Ahmedabad had for centuries enjoyed among the cities of India by virtue of its commercial prosperity, its monuments, its great fertility, its beauty and value of its handicrafts and the most delicate silks and brocades produced in its royal factories. Today undoubtedly a large number of mills, schools, and various Colleges, Libraries, Hospitals, Parks, various Associations, Clubs, Gymnasiums etc., have added to its importance. With the progressive Municipality providing increasing amenities such as parks, avenues, museums, Ahmedabad might once again present a glimpse of what it looked like in the older days.*

* I am indebted to Khan Bahadur Prof. M. S. Commissariate and Mr. Ratnamanirao Bhimrao, for the information contained in this article



Main Porch of the Ahmedabad Municipal Building

Rotarian Khan Bahadur Sir Mehbub I. Kadri &

AHMEDABAD MUNICIPALITY

TO Ahmedabad, the ancient capital of, and now the premier city in Gujarat and the second city in the Bombay Presidency, belongs the credit of being the first town where local people voluntarily came forward to tax themselves for providing civic amenities and formed, along with Government officers, a small committee of four persons, two officials and two non-officials, to manage purely local and civic affairs. This was in the year 1817 A. D. immediately after the surrender of the city to the East India Company by the Gaekwar of Baroda.

It was found that the city was then in a very filthy, insanitary and neglected condition, and, to remove this state of things, providing of funds was necessary. The above mentioned committee imposed octroi duty on the import of ghee, shawls, opium and several other articles and with the funds thus raised, steps were taken to improve the sanitary condition.

The city walls which were originally built by Sultan Ahmed, when he founded the city in 1412, were in a very dilapidated condition. They had fallen down in many places, leaving big gaps, and what was left, stood in need of immediate repairs. The necessity of repairing these was felt from the very beginning of the British rule, and several attempts were made by local officers to induce the Government to take the work in hand. When this was not done for want of necessary funds, sanction was obtained in 1830 A. D. to enhance the octroi duties already levied, the object being to provide

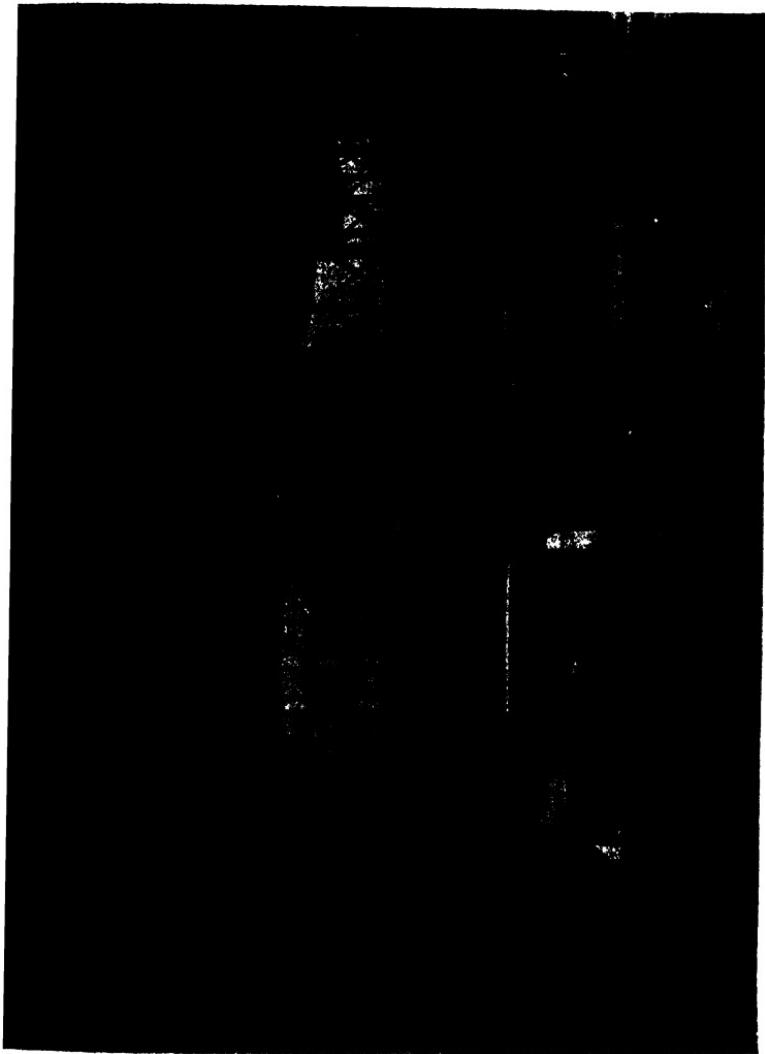
money for repairing the city walls. The old committee was continued, and in 1834 the above named committee of four took up the further work of municipal administration. This was the beginning of the Ahmedabad Municipality and to commemorate this event the Municipality celebrated their centenary in 1934. In 1842, the work of repairing the city walls was completed, some surplus of the taxes collected was in hand, and it was proposed, that, after deducting recurring charges for the maintenance of the city walls in a good condition, the surplus should be utilised for providing certain further amenities of which the city stood in great need, these being the supply of water to the city and the watering of the principal thoroughfares to allay the dust nuisance for which the city, otherwise known as Girdabad, was notorious.

This committee functioned till 1858 and carried out important works, such as the city water supply, the maintenance and lighting of roads, the scavenging and sanitary arrangements.

In that year, the old town walls committee was dissolved and a municipal committee with well defined constitutional powers took its place. This committee was established by virtue of Act of 1850, "An act to enable improvements to be made in towns."

The next important landmark in the growth of the Ahmedabad Municipality was its reconstitution in 1873 under the Bombay District Municipal Act VI of 1873, which superseded Act XXVI of 1850. Under this Act, two classes of municipalities were constituted, the City Municipalities and Town Municipalities. For the former, a minimum population of 10,000 inhabitants and for the latter 2,000 was necessary.

Municipal Water-Works



The people of Ahmedabad, even at that remote period, were keen on having the principle of election extended to their municipality, and by a petition dated 21-6-1874 signed by Nagerseth Dahyabhai Motichand and others they prayed that the provisions of section 7 of the District Municipal Act, so far as they related to the introduction of the elective principles, may be made applicable to the city municipality of Ahmedabad, the reasons being:-

"(a) That the system of selection by Government had proved unsatisfactory and

(b) that by the extent and population of this ancient city, by the wealth, commercial enterprise and general intelligence, education, and business habits of the citizens, they had, among them, several persons duly qualified by education, intelligence and public spirit to look after their local municipal affairs." The petitioners further added "Indeed we should not look upon it, otherwise than as an undeserved reproach to our city if Government, after the legal recognition of the elective principles, refused to extend its application to us, for there must be at least twenty wise and qualified persons in a population of a lac and twenty thousand."

This earnest prayer of the petitioner was, however, politely turned down, and the principle of electing their representatives on the Municipal Board was not extended to it.

In 1884-85, Lord Ripon conferred the boon of local self-government on municipalities, and a municipality constituted partly of elected and partly of nominated members, came into existence in Ahmedabad on the 1st January 1885. That industrial magnate and public

benefactor R. B. Ranchhodlal Chhotalal C. I. E., whose oil painting adorns the walls of the Gandhi Hall in the local municipal building, was the first nominated president from 1885 to 1895. During his regime, works of far reaching civic importance were designed and carried out, the most important of these being the water-works and drainage. During the hot months of the year, great scarcity of drinking water used to be felt, and cholera was an annual visitor exacting a toll of hundreds of lives. R. B. Ranchhodlal, with keen foresight, saw that the only way to remove this scourge, was to provide a copious and clean supply of drinking water, but when he put forward his proposal, he met with very strong opposition from the public. The writer very well remembers an incident that occurred when these proposals were discussed at a public meeting held in Tankshal Pole. R. B. Ranchhodlal was not only hissed and hooted down, but stones were thrown at his brougham when he left the meeting, and he had to seek police protection. Inspite of all this opposition, he worked with patience and perseverance, and was eventually able to carry through his proposals in the Municipality. These proposals were sanctioned by Government on the 9th February 1889, and a scheme of providing four supply-wells and one jack-well with the necessary pumping and storing arrangement was framed and finally completed in 1891. There were subsequent additions made to meet the requirements of the increased population and at the present day the Dudheshwar Water-Works supply 16,170,000 gallons per day, besides the tubewells at Vadilal Sarabhai Hospital and other places which supply additional 1,600,000 gallons per day.

Vadilal Sarabhai General Hospital

After R. B. Ranchodlal Chhotalal, there were five presidents till 1910, when the Municipality was superseded by order of Government. And a committee of management of which Sir Chinubhai Madhavlal Bart. was the chairman, functioned up to 1915, in which year the municipality was restored, and the right of electing its own president was given to it. Mr. Bhaishanker Nanabhai, Solicitor, was the first elected President for one year. He was succeeded by R. B. (afterwards Sir) Ramanbhai M. Nilkanth who functioned from 1916 to 1922. Many works of public utility were taken up during this period. He was succeeded by Mr. Vallabhbhai J. Patel who officiated from 1924 to 1928, and in his time, great progress in adding to the water works and extending of drainage to the rest of the walled city was effected. Mr. Vallabhbhai was succeeded by Mr. Daulatram U. Shah who officiated for one year followed by Mr. Mulchand Asharam Shah who worked for a similar period. During this period, the work of asphalting municipal roads was taken in hand, and the first road to be asphalted was from Bhadra to Railway station. It costed Rs. 400,000. Since then asphalting programme has gone on till today; nearly all the principal roads and streets of the city have been paved with one or the other kind of asphalt treatment. Even the *pols* or narrow streets have been taken up for pavement. Thus the dust nuisance is being effectively eradicated from the city and, it is possible now to challenge any one who attempts to make a disparaging reference to the once prevalent dust nuisance in the city. Mr. G. V. Mavalankar was the President from 1930 to 1933. Mr. Balwantrai P. Thakore from 1933 to 1936, and since then Mr. Manilal Chaturbhai Shah is the President.

During the last ten years great progress in all directions, Educational, Sanitary, Medical Relief and providing of civic amenities has been made and the administration has evoked commendation from all quarters.

The new city which has sprung up on the western bank of the river is a growth of the last few years. The Municipality town-planned the area and Co-operative Housing Societies were found, and what was once nothing but agricultural land came to be built up into a garden suburb.

The latest amenities to be provided are the extension of drainage to the mill suburbs, Vadilal Sarabhai Hospital, the Maneklal Jethabhai Library, the Jamalpur Bridge, and the Shahpur Bridge. Proposals for providing an extensive park with a museum and a swimming bath have been sanctioned. Playgrounds for children have been provided. The municipality is opening up, at a huge cost, a road through the most congested parts of the city. In short there is admirable progress all round. Indeed Ahmedabad may be considered to be one of the best managed municipalities in the Bombay Presidency, if not in the whole of India. The phenomenal and accelerated improvement of the city has been made possible by the flourishing financial condition of the Municipality, which in its turn is accounted for by the thriving mill industry. But even this would have remained ineffective but for the high civic sense displayed, and the enlightened and go-ahead policy adopted, by the Municipal Board from time to time, and the conscientious, energetic and effective work of the Chief Officer, Rotarian I. R. Bhagat,

Rotarian Kasturbhai Lalbhai

THE BIRTH AND GROWTH OF THE TEXTILE INDUSTRY AT AHMEDABAD

THE rationale of the development of the Textile Industry at Ahmedabad is difficult to comprehend at the first thought. Ahmedabad does not have any of the advantages, usually associated with a big industrial centre. Unlike Bombay, it is an inland town, without the advantage of even a large river. Unlike Cawnpore again, it is not situated on the foci of railway lines. The land around it is rather dry, and excepting the south, salt marshes are not far away. It is not even endowed with good or favourable seasons; the winter is cold, while in summer scorching winds sweep over its soil of loose dust. Generally, the monsoon is not kind, but even when the rain clouds burst, its soil is too parched to glisten like the mellow earth of the Northern plains. Altogether, Ahmedabad is not a place in which an industrial pioneer would have placed his faith.

And yet, to a person with an eye for the preserving spirit of the people, this place had obvious advantages. It is situated on that borderland between the deserts of Marwar and the fertile plains of Gujarat, where people cannot forget that life is a continuous hard struggle, and still cannot but realise that life is not all bitterness. It has therefore a happy ensemble of temperament. It has a firm grip on the problems of life, with a dominant common sense to spot advantage even at a distance. On

Mills of Ahmedabad

25

the other hand, it is sufficiently cautious not to be carried away by nimble imagination. As events have proved, it is an ideal temperament for an old industry like the Textiles. It does not require the bold vision of a Tata or a Ford, nor does it require the gambling instinct of a Rockefeller. Its prizes are quite certain, and it can be started in a small way. But it requires an inflexible perseverance, an unflinching attention to each process, and unflagging effort to pass to perfection from one stage to another. In Textiles, one therefore never awakes to success; one works on to it, and if there are any people suited by nature to do it, they are the people of Ahmedabad. Consequently, like good artisans, they have forged one stage after another to their present greatness.

The first step in this process was taken by Rao Bahadur Ranchhodlal Chhotalal, C. I. E., who founded the Ahmedabad Spinning Mills in 1859. This decision was opportune in several ways. The old conventional society was beginning to show the signs of a break-up under the stress of the more powerful Western Civilization, and as handicrafts were disappearing, a floating supply of people had begun to come out to sell their services. At the same time, the Hand-loom Industry was still holding its own position, and there was a fairly large market for the supply of the yarn. Ahmedabad was also getting linked to other centres by the development of the Railways, thus making it possible to reach more distant markets. Thus, the birth of the Ahmedabad Textile Industry was marked by the modest beginning of a small spinning mill, and during the next fifty years that followed, as conditions were found favourable, one by one, more mills were added, and the character of

the production changed. The disappearance of the yarn trade of China between 1908 and 1912, convinced the people of Ahmedabad that a greater future lay in supplying cloth instead of yarn. All the development was however characterised by one dominating influence. Ahmedabad had no desire to venture into the unknown to seek out markets, which were not under its direct eye. Consequently, while first its zone of operation embraced only Gujarat and Kathiawar, and later on extended to other parts of the country, it catered for the coarse and heavy stuff, which was not sufficiently interesting to Lancashire and which was sure to be taken up by the poor sections of the country. Gradually, it acquired a strong hold over the market, but its success was so unassuming that it struck no one in the eye. Till almost the outbreak of the last War, the existence of the industry did not count either in economic or political matters, and at best, it was considered a provincial industry, useful but not striking, and managed by people who appeared to be clever in their small way, but too commonplace to compel admiration.

It was the World War of 1914–18 and its aftermath which helped the Ahmedabad Textile Industry to its second stage of progress. The stoppage of the supplies from Lancashire was a godsend to it, as it knew its markets and already had an extensive organisation to serve it. Having had no export trade outside India, whose loss would be embarrassing for the moment, it could concentrate all its energies on the Home Market, which it did; with such success, that it fairly entrenched itself in the trade in medium-priced Sucas, Dhoties and Shirts. Simultaneously, it laid the foundations of a future

and a greater success. Even though the people found that over-night they were able to secure incomes, which could not have entered their wildest imagination earlier, true to their traditional make-up, they did not lose their grip on the essentially temporary character of the phenomenon. While their standard of living did not remain entirely unaffected, much the major part of what they earned they saved, with the result that after the frenzied period was over, not only were the people themselves moderately rich, but the mill companies also could show enviable reserves. Again, on account of the hereditary element in the Industry, the higher earning power or the larger reserves were not cashed by over-capitalization, and in the face of overwhelming temptations, scarcely any mill changed hands. In this way, the War converted the mills and the agents into powerful industrialists. Still, in keeping with traditional policy, this success was achieved so quietly that even competent observers failed to notice that Ahmedabad was destined to play a very important role in the near future.

The period following the War was one of intense political ferment. For the first time, Ahmedabad began to take interest in these movements, directly through its representative in the Assembly, and indirectly through its well-to-do middle class people, and came to be considered as a factor to be counted. Then came Protection and the Swadeshi Movement. With its well-filled reserves, with its extensions and improvements of machinery, and with its wide market organisation, Ahmedabad was ready to take an advantage of both these movements. In this, it was not hampered by labour troubles, as with a characteristic genius, it had already evolved

Old Manek Chowk

a machinery, which assured satisfaction to both Labour and Capital. So, it had an uninterrupted period of expansion, both regarding Working Units and the consuming markets, till in 1935, it could look back and say that in Textiles, it was leading the rest of the country. No less than the Secretary of the Manchester Chamber of Commerce, wrote the following remarks in this connection:

“If this is the Manchester of India, then all
Manchester (the original) can do is to offer
admiring and congratulatory salutations.”

It may be remarked that this would only show that Ahmedabad has been more fortunate than other centres, but that would not be correct. Industrialists at Ahmedabad have made the best use of their chances, like other businessmen, but they have not depended on them. On the contrary, they have always been ready to meet any change in the technique of manufacture, or the demand of the market by a constant transformation, and renovation of the industry. In this, they have been certainly helped by their large reserves, but two other factors have contributed more. It is the traditional Ahmedabad practice, to start with a small unit, and then expand it as circumstances permit. This offers them many more chances to review the imperfections and to correct them than could be had by another industrialist, who gets committed to a process or machine at the very first instance. Again, it is usual in Ahmedabad to make an ample provision for renewals and repairs, out of which there is a continuous replacement of the older machines. Thus, all along the line, a ceaseless change is always going on, so that without any obvious efforts or unusual

spurt of activity, it transforms the technique and the character of the industry, and endows it with a resilience to maintain its position in the flux of circumstances.

In this way, Ahmedabad tried one system after another, to get over its extreme changes of the weather, and it can now be said with confidence that though its practices in humidification and ventilation do not compare anywhere with such practices in the U.S.A., its experience has enabled it satisfactorily to surmount this difficulty. To-day, a major part of the Ahmedabad Mills are equipped with Carrier Plants, and one or other system of humidification. Similarly, in the matter of power, unendowed with any cheap Hydro-Electric supply, it replaced the older engines with turbines, and later with Diesel Engines. In Spinning Ahmedabad did not start with any mules, but in Ring Spinning it has always sought out the improvements, till to-day, no other centre would have so many spindles on the High Draft System. High Speed Winding and Warping are generally unsuitable for higher counts, but here again, by perseverance, it succeeded and scrapped the older machines. Simultaneously with this, it has also been changing the quality of manufacture. Starting with the coarse yarn and cloth, it has been gradually going fine, and has equipped itself for the task. Ten years back, probably, there were no Combers, while to-day, no mill doing fine counts will do without them. About 1920, it started bleaching its goods, first with the help of country Dhobis, and then with the machines, and within a short period, penetrated into the trade in 'Whites', which was so far considered a speciality of Lancashire. This change has been remarkable both for its rapidity and its exten-

siveness, as, to-day Ahmedabad is the leading centre in India for the manufacture of bleached goods. More recently, it has extended its operations into the trade in printed goods,—almost the only trade in which India still imports large quantities from foreign countries,—and is working its way to it with its usual thoroughness. While, therefore, before the War Ahmedabad could offer only coarse and heavy cloth, to-day it has a wealth of textures, designs and colours.

Running through this transformation, there is a remarkable continuity of design, which perhaps would not have been possible, but for the system of management in Ahmedabad. The Managing Agents in Ahmedabad were primarily merchants for generations, before the coming of the Textiles. They were leaders in their own profession, and had amassed a considerable wealth. When they, therefore, took to the Textiles, they brought with them a rich inheritance of family traditions, which, while conservative, was also tinged with the basis of human charity. Being possessive, it considered the mills as a family trust, which was to be conserved and handed over to the next generation. Being humane, it kept an eye on the more permanent aspect of the problems that it had to face. While it cannot be said that the Managing Agency system has no faults, the survival of these traditions has overwhelmed them, and contributed in no mean way to the present success of Ahmedabad. It has secured for the industry an identity of interest and purposiveness normally absent from corporate management. It has also secured a management which is ever watchful and which is never tired of work. Altogether, it has so influenced the ideals of management, that, even to a casual



New Manek Chowk

observer the methods and practices followed at Ahmedabad appear different from those elsewhere, and the industry as a whole seems to be placed in a setting of its own.

This impression is strengthened by certain other factors. One of them is the peculiar method of financing the industry. The usual method is to raise sufficient share capital to meet all the expenditure, or to make up the deficiency of the share capital by Bank loans. In Ahmedabad, on the other hand, the share capital is usually small, and the major part of the outlay is financed by deposits from the agents, their relatives and others. One great advantage of the system is, that it enables the plant to have a gradual expansion, with a comparatively cheap credit. It is obvious, however, that the system has disadvantages, and it cannot work in a centre where depositors do not have absolute confidence in the people to whom they entrust their money. It is, therefore, to the immense credit of Ahmedabad, and particularly, to its Managing Agents, to have inspired and retained this trust, inspite of the continuous changes in business conditions. It is also to their credit that there have been few occasions, when the depositors have been deceived in their trust and have lost their money.

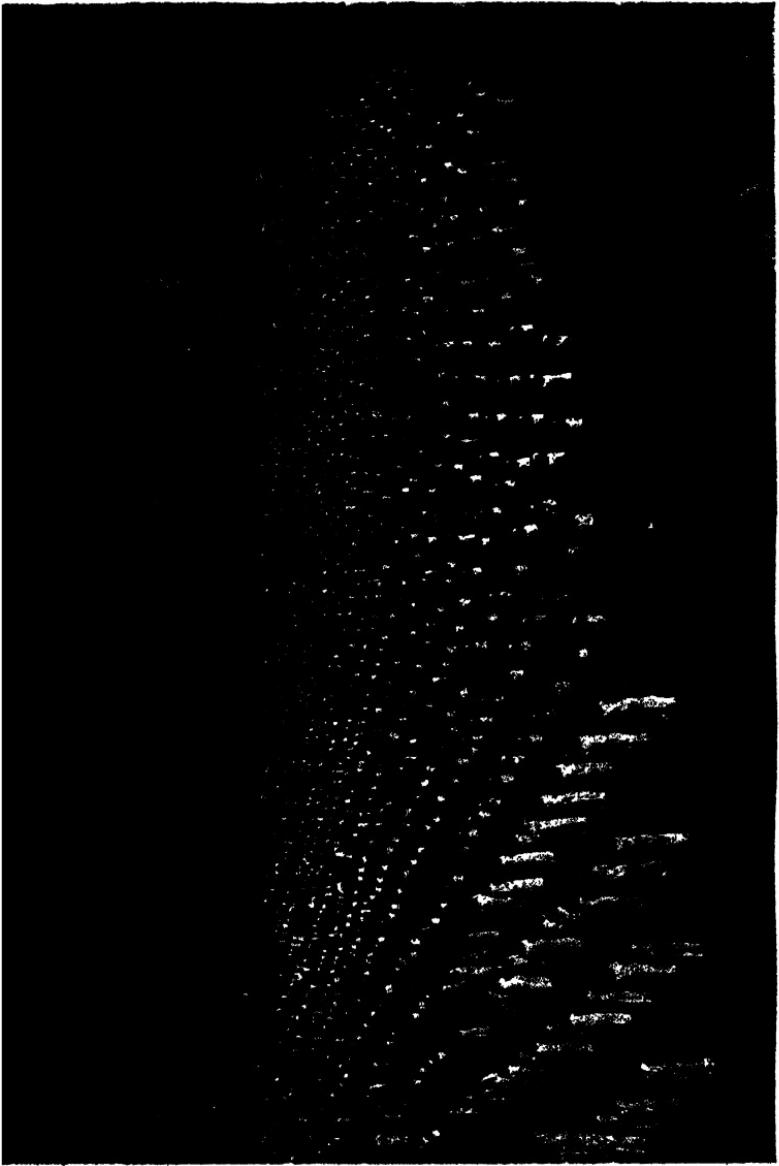
The other distinguishing feature lies in the relations between Labour and Capital, which have received praises even from the Secretary of the International Labour Office at Geneva. Ever since 1917, both the Labour and Capital have come under a strong influence of Gandhiji, and though it cannot be said that they have fully imbibed the ideals of Gandhiji, regarding the Trusteeship of the industry, they have learnt sufficiently by his

teaching and their own experience, to realise that only evil can come out of industrial strife. So, an elaborate machinery of arbitration has been devised both for major and minor issues of differences between Labour and Capital, whose one aim has been to avoid strikes or lock-outs at any cost. Naturally, the result has involved compromises on both the sides, and as such, has not always been of a type that would please a finical theoretician, but it has certainly succeeded in avoiding strife. Its more positive contribution has been towards the development of a new outlook on the relations between Labour and Capital,—an outlook which believes that the future of the production of wealth lies in an integral partnership between Labour and Capital. As there have been no strikes of any magnitude since 1917,—excepting the one in 1923 lasting for about ten weeks,—even if Ahmedabad had made no other contribution to the industrial growth of the country, this approach to industrial peace is enough to deserve a creditable mention in the history of any country.

EDUCATION IN AHMEDABAD

PRIMARY EDUCATION

WHEN one begins to think about 'Education in Ahmedabad' the first question that he will like to ask will naturally be 'Has free and compulsory primary education been introduced in the city?' Ahmedabad being a very prosperous town with a municipality that is credited with being a very rich and progressive municipality, one almost takes for granted that compulsory education must have been introduced in the city long ago. It is certainly over-due in the city. But unfortunately the Ahmedabad municipality has as yet not been able to introduce it in the city. But in fairness to the municipality, it must be admitted that the municipality is not at all to blame for it. So early as 1925, the municipality prepared a complete scheme of compulsory education, working out all the necessary details of the scheme and submitted it for the sanction of Government, for according to the Primary Education Act, Government sanction is necessary before compulsory education is introduced. For one reason or another, Government have as yet not accorded their sanction to the scheme. Probably want of funds must be the chief reason why Government could not sanction the scheme. For according to the Primary Education Act, if Government sanctioned the scheme, there would be a statutory obligation on the part of Government to give to the municipality as a grant-in-aid half of the additional expenditure incurred by the municipality on account of primary education. When the Congress took



Mass-Drill

offices, the municipality could have revived its old application for permission to introduce compulsory education in the city. But it is doubtful if even the Congress Government would have been willing and able to accord their sanction to compulsory education being introduced in the city of Ahmedabad. Firstly because the Ahmedabad of 1939 is not the same as the Ahmedabad of 1925. The area of the city has been widely extended of late and its population has been considerably increased since 1925. The introduction of compulsory education would mean an additional expenditure of 8 lacs of rupees to the municipality on account of primary education, out of which the Government would have been bound to pay to the municipality 4 lacs as a grant-in-aid according to the provision of the Primary Education Act, and the financial condition of the Government of the present day is certainly not better than that of the Government of 1925, thanks to the Prohibition policy introduced by the Congress Government, and still half-heartedly continued. It is also doubtful if the financial condition of even the municipality is strong enough to permit it to take upon itself an additional burden of a recurring expenditure of rupees 4 lacs per annum on education, in addition to rupees 9 lacs which the municipality has been at present spending on education every year.

But even though the municipality has not been able to introduce compulsory education in the city, it has done all it could to spread primary education far and wide in the city on a system of voluntary expansion during the last fifteen years. At present, the municipality maintains so many as 200 schools which include even Marathi, Hindi, Urdu and Tamil Schools with about

35,000 pupils studying in these schools, and spends on education as stated above something like nine lacs of rupees every year for which Government give it a grant of only Rs. two lacs and a half, while in 1924-25 it maintained only 88 schools with only 14000 pupils and its annual recurring cost on education was only Rs. 425,000, of which Government contributed Rs. two lacs as grants-in-aid. It will thus be clear from these figures that schools, pupils and expenditure have all increased by more than 100 p.c. within the last fifteen years.

In addition to these 200 municipal primary schools, there are in the city about 30 privately managed primary schools of which 22 receive grant-in-aid from the municipality. 4000 pupils study in these privately managed primary schools. Thus in all about 39000 pupils study in the primary schools of the city. The present population of Ahmedabad must be about 5 lacs. So if all children of school-going age attend primary schools, about 75,000 children must attend primary schools, whereas only 39,000 pupils attend schools. Thus 36,000 children do not attend any schools at all. They can be made to attend schools only if compulsory education is introduced in the city. But looking to the financial condition of both the Government and the commitments of the Ahmedabad municipality, in other directions, I doubt very much if there is any likelihood of compulsory education being introduced in the city in the near future.

The proportion of boys and girls studying in the primary schools in the city comes to 3 girls per 5 boys. The protagonists of female education should therefore wake up and organise a huge propaganda in the cause of female education.

Besides these 230 primary schools, we have in the city two training colleges to train teachers for primary schools, the Premchand Raichand Training College to train male teachers, and the Mahalaxmi Training College to train women teachers. Both these are Government institutions and to both of them are attached Practising Primary Schools. The training college for men trains 250 teachers, while the training college for women trains 150 teachers. The former was started in 1856, while the latter was started in 1870.

The most noteworthy feature of primary education in the city is the sudden liking for pre-primary education by especially the advanced section of the population. This liking has resulted in having in our city so many as 25 Bal Mandirs—Montessory Schools for children, whose age is between two and five. The children are trained in these Bal Mandirs according to Montessory method. Most of these Bal Mandirs have come into existence within the last ten years. They have all become very popular. And even though exorbitant fees of Rs. 4/- and 5/- per month per child are charged, parents willingly send their children there. Of course, looking to the population of the town the number of Bal Mandirs in the city is very insignificant; but it indicates the direction in which the wind blows.

SECONDARY EDUCATION

The story of secondary education in the city is a very disappointing and dismal tale. If, however, one reads the advertisements in the local papers in the month of June about the special features and achievements of different secondary schools in the city, one would naturally

Gujarat Vidyapith



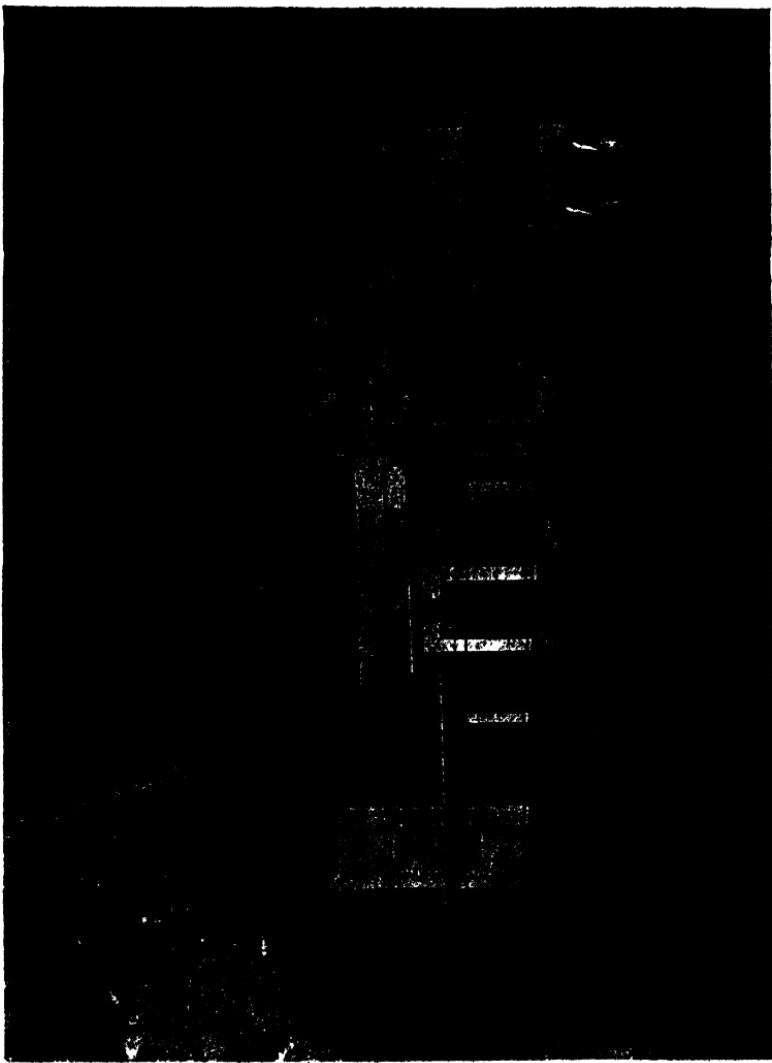
infer that secondary education in the city of Ahmedabad must have reached a very high standard of excellence. These advertisements are nothing but mere self-glorification. Their only object is to attract more pupils to their school. The real condition of secondary schools in the city is anything but satisfactory. The profession of a teacher in secondary schools has no more remained a noble profession, but it has been degraded to the calling of mercenary trade. Mean and unhealthy competition is rampant everywhere in schools in the city. Everything is considered fair in an attempt to tempt more pupils in one's schools. Most of the secondary schools in the city are private proprietary concerns and they are mostly conducted with merely a commercial object in view. Discipline is therefore slack and influential pupils are pampered. The promotions are too common. At times even commissions are paid to those, who bring pupils to schools. High fees are charged for comparatively inferior teaching. Private tuition is encouraged and at times even teachers are engaged with promises of private tuitions. Over and above regular school fees, game fees, drawing fees, library fees, entertainment fees, water fees, examination fees and many other kinds of fees are charged from students. They are compelled to buy particular kind of school note-books in the name of uniformity. Poor students are thus exploited in a variety of ways. Even poor teachers are exploited by the managers and proprietors of schools. Too much work is taken from them and they are paid miserably. At times even they are not paid for vacations which they have honestly earned. Government inspection and supervision are almost nominal and public opinion is still not strong enough to check these evils in the secondary schools of the city.

There are 30 secondary schools in the city and the number of pupils in these schools is about 20,000. It thus appears that only half the number of those that study in primary schools continue their studies in secondary schools. Out of these 30 secondary schools in the city only four are exclusively meant for girls (1) Government Girls' High School, (2) Municipal Girls' High School, (3) The Vanita Vishram High School and (4) Sheth Maganbhai Karamchand A. V. School for girls. The number of pupils in (1) is 250 and in (2) & (3) it is 500 and in the last it is 200. It is, therefore, necessary to have more secondary schools for girls in the city. The accommodation in these four girls' schools being limited, a large number of girls, who desire to continue their education in secondary schools have to join boys' schools, sometimes much against their own and their parents' desire. Sometimes guardians do not like to send their girl-wards to boys' secondary schools and consequently they are obliged to give up their studies. Those girls who attend boys' secondary schools do not do so because they or their guardians like co-education. But they have to do so *nolens volens*, as there are not enough secondary schools for girls in the city. Really speaking there is very little of real co-education in those secondary schools in the city, the managers and proprietors of which loudly boast they have introduced co-education. A mere admission of some girls in those schools which are pre-eminently meant for boys can by no means be called co-education. Unless and until girls take part freely and without any reserve in all the activities of schools such as games, sports, debating societies, social gatherings etc., roam about freely laughing and talking every-

where in the school and fully enjoy the school life, we cannot say that there is co-education in a particular School or College. At present, there is little of co-education in our schools and colleges. I am afraid the so-called co-education of the present day will on the contrary dwarf the physical and intellectual growth of girls and will make them sex-conscious a little too prematurely. I would therefore advocate more secondary schools for girls with a view to giving girls a greater scope for their physical and intellectual growth and development and enabling them to have a full and unreserved and unrestricted enjoyment of school-life.

I cannot conclude this part of my article without making a reference to the recent resolution of Government to convert the R. C. High School Ahmedabad (the only Government High School in the city) into a commercial school by gradation in four years. The R. C. High School is the oldest secondary school in the city with brilliant traditions. It was started so early as 1846. As I am not one of those, who have lost faith in the liberal education, I am sorry I cannot congratulate Government on their recent Educational Policy which to me appears to be retrograde. Government contemplate the conversion, either into commercial, agricultural or industrial schools, of most of their existing secondary schools. I am not against commercial, agricultural or industrial schools as such; they certainly have their use. But existing secondary schools of long standing, which have an amount of useful solid work to their credit should not be destroyed, nor should industrial, commercial and agricultural schools be created on their ruins. Let the existing Government secondary schools go on as usual,

Municipal Vyayam Vidyalaya



and along with them side by side let us have newly started commercial, industrial and agricultural schools and let the people choose what they like. If Government think that by closing their own secondary schools, they will be able to divert students away from the glamour of the matriculation examination and the university, they are sadly mistaken. Students will fall into the fire from the frying pans. They will flock to less efficient private schools. An argument is often brought forward that the so-called liberal education of the universities is useless because so many graduates are without any employment. The unemployment of educated middle class youths is so patent, that he who runs may read. But where is the guarantee that the students educated in commercial, industrial or agricultural schools and colleges will immediately be able to get jobs? What is the case with science, commerce and agriculture graduates? Are they not as jobless as the arts graduates? It is no good blaming the liberal university education in season and out of season for the unemployment of educated youths. We shall have to go elsewhere to find out the causes of unemployment. It is high time that the wise men of the country should put their heads together and try to find out causes of unemployment, and remedies to remove it.

UNIVERSITY EDUCATION

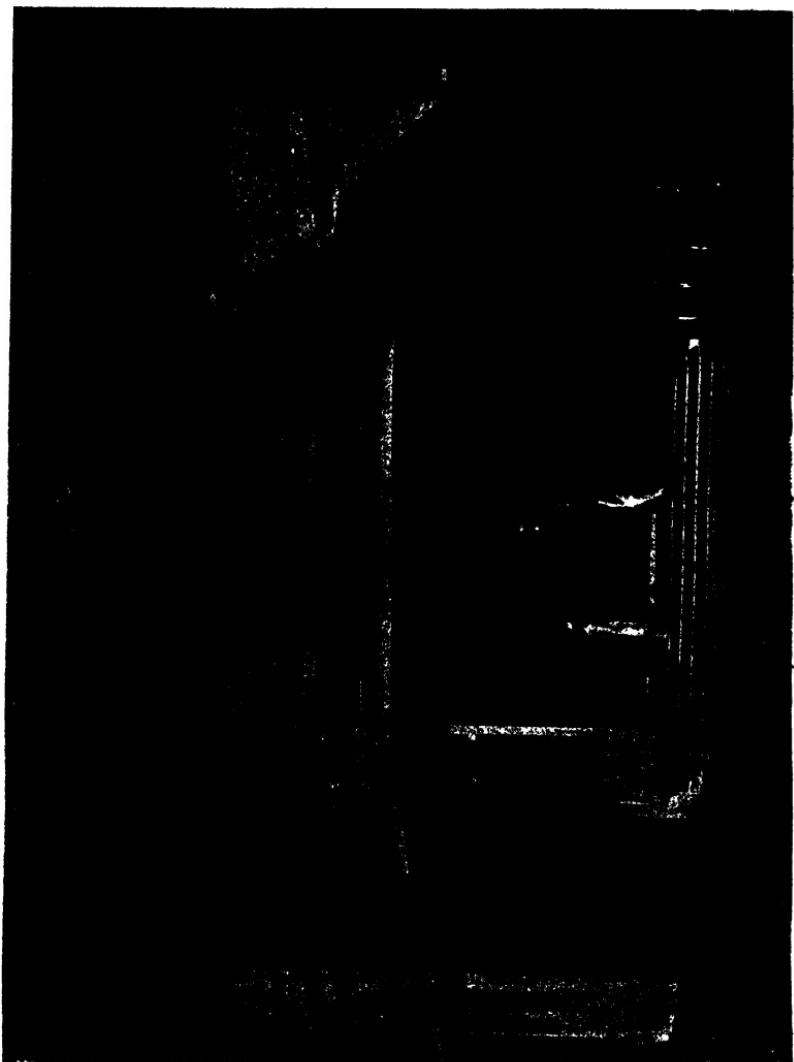
In the matter of higher university education, Ahmedabad has made immense progress within the last five years—thanks to the efforts of the Ahmedabad Education Society. That society has recently been able to give to the city two more colleges—H. L. College of Commerce and S. L. D. Arts College. In the former there are 600

pupils while in the latter there are 250 pupils. In the Gujarat College and the Madhavlal Science Institute the number of pupils is one thousand. Both arts and Science courses are taught there. The Gujarat College is one of the oldest colleges in the presidency. The Elphinstone College and the Deccan College are older than the Gujarat College. But the Deccan College is now no more. The Gujarat College came into existence by means of private efforts as early as 1860. Thanks to the munificent donation of Rs. 10 lacs of Sir Chinubhai Madhavlal, the first Baronet, the Government were enabled to take upon themselves the management of the College and fully equip it for higher studies of Science. All these three colleges are affiliated to the University of Bombay. In addition to these three colleges, we have also one more college in the city – Lalshanker Mahila Pathshala. It is exclusively meant for girls and is affiliated to the Indian Women's University. It has come into existence in 1920 and has been steadily progressing since then. But, unfortunately, it has not been as popular as it deserves to be. Even though it is exclusively meant for girls and the courses of studies there are easier than those of the Bombay University, the number of students studying there is only 50, whereas the number of lady students in the Gujarat college is more than one hundred, and those in the S. L. D. College is 25.

We have also a Law College in our city. It came into existence by means of private efforts in 1929. The college is now on a sound footing. It has its own building. The number of pupils receiving instructions in that college is 200. The college is maintained by the local law society. It prepares students for 1st and 2nd LL.B.

examinations. We have of late been hearing of the possibility of an Engineering College and a Medical College being opened in our city. Ground work for the opening of these two Colleges is being done. I hear even negotiations are going on with Government and the University for the same. Government are also contemplating the opening of one Agricultural college somewhere near Anand in the Kaira District. When the idea of the opening of these three colleges will materialise, we shall have a complete ground work ready for a separate university for Gujarat. Besides the Educational institutions mentioned above, we have in our city the B. J. Medical School, attached to the local Civil Hospital. It is maintained and administered by Government, and the local Civil Surgeon is the Superintendent of the School. 200 students study in this school. We have also a technical school here known as the R. C. Technical School. It owes its existence and maintenance to the magnificent donation of the late Sir Chinubhai Madhavlal the first Baronet. It is under Government management. There has been started another Technical and Industrial Institute attached to Sheth Chimnal Nagindas Vidyavihar. In this Institute, technical instruction is imparted in the Mechanical Engineering, the Electrical Engineering, and the Radio Engineering. The industrial training is given in the spinning, the tailoring, the silver-smithing, the cane-work and the carpentry-work. This Institute has a great future and promises to come up to the level of the best Institutes in India. We have also in our city a school for deaf and mute children. It owes its entire existence to the public spirit and philanthropy of late Mr. Pranshanker Lallubhai, who single-handed collected funds for the school,

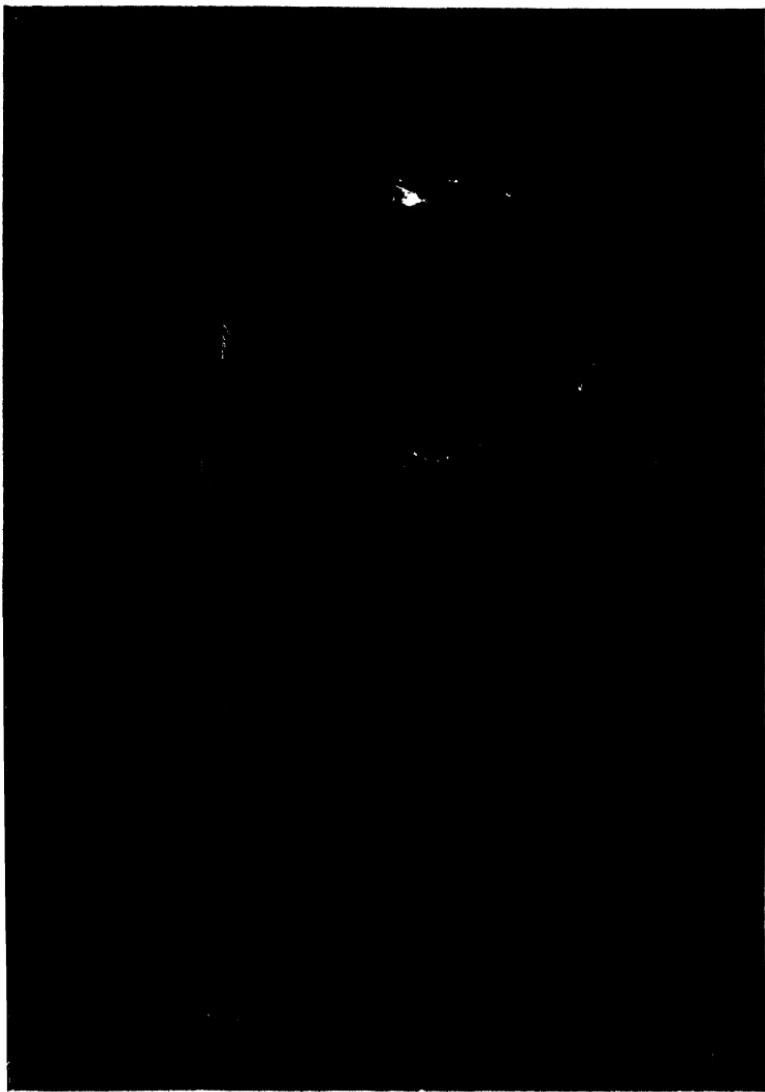
Sheth Maneklal Iethabhai Library



brought it into existence and put it on a sound basis.

To make Ahmedabad a worthy centre of learning and culture, we badly need a School of Fine Arts, a Museum and a nice Picture Gallery. There is one school for painting conducted on a small scale by Mr. Ravishanker Raval, the well known painter and artist of Gujarat. But the private efforts of a single individual are not enough to bring into existence a full-fledged school of Arts in the city. We hope, our municipality will rise to the occasion and will give us at no distant date a School for Fine Arts, a Museum and a Picture Gallery worthy of this ancient and historic city of ours.

Sabarmati River



PROGRESS OF WOMEN IN AHMEDABAD

THE world is moving very rapidly nowadays, and the physical instruments of quickest movements are only outward indications of the great strides men's minds are making in all directions. India is also moving with the world as is seen in its social, political and other progress. It is enough just to cast a bird's eye view on its cities. The villages too are moving, though not at the same speed.

It is stated that the progress made by women of a country or a place is an index to its general uplift. The city of Ahmedabad is growing in all directions. The actual land-limits have extended; trades and industries have developed; political and social awakening is visible to the most casual onlooker; educational institutions have increased in great numbers. Above all an atmosphere of freedom is markedly felt by those who have lived in old times. Two quarters of a century have entirely changed everything in connection with the city life.

Girls' education has increased by leaps and bounds during the last half century. Fifty years back there were three girls' schools in this city. Imparting English language was just started in one of them. Today there are more than seventy primary schools for girls and girls' high schools also. Besides, these several primary schools contain English classes. In the ninties the Gujarat College of Ahmedabad had its first three lady students, while today over a hundred girls study there and a

college exclusively for women belonging to the Indian Women's University teaches nearly the same number of girls. Over and above this, about five hundred girls attend boys' schools.

Directly due to spread of education among girls, the marriage age of girls among Hindus has been considerably raised. In the past it was considered a great shame and a matter of censure for parents to keep their daughters unmarried beyond the age of twelve or thirteen years. Now, all girls going to the schools and colleges are unmarried, and many more of the age of 20 and above are still to be married. In fact among the educated classes, girls are hardly ever married before they are 18. With the liberalising influence of education girls have become bold and self-reliant. In olden times parents never dreamt of sending their girls to schools without an attendant accompanying them. Now, that obsession has gone away and hundreds of girls move in the city, walking or in buses, without the least fear on their part.

Ahmedabad boasted of half a dozen or perhaps a dozen of carriages in the second half of the last century. They belonged to the aristocracy of the city and the ladies, while moving in the carriages, scrupulously put down the screens. Gujarat is not a purdah-observing part of the country, still this practice was invariably observed. By and by carriage owners increased. *Shighrams* also came in. Following the lead of the aristocrats, all ladies using carriages, thought it proper for their dignity to close the screens of their conveyances. This writer remembers vividly, when she herself and some friends were reprimanded severely once having taken down the hood of a victoria-carriage outside the city, not having

courage enough to do it in the city itself. But this rule-breaking continued off and on, and the custom has gone for ever.

In the good old days, consciously or unconsciously, women were considered in many ways inferior to men. It was thought improper for them to put on shoes or carry umbrellas. The native Christian women put on shoes and used umbrellas. Consequently those Hindu women who thought it an absurdity to go without them in sun or rain were shouted at as '*Khristis*'. The next generation, belonging to the same people who hooted those, began using these without any restraint. Now *Champals* have become indispensable to all women in the city. It is not the use of one thing or other, but the change in the mentality of the people that counts. For example, the women are occupying at present teachers' posts in schools, a large number of women practise as doctors, and several are conducting institutions as managers and secretaries. They attend mixed gatherings which was very rare in the past. They go to the stage as amateurs, and help public charities by their excellent performances. They frequent libraries and conduct debates.

With the clarion call for simplicity by Mahatma Gandhi, the craze for pompous clothes and ornaments has disappeared from the middle class women. This is evident on occasions where formerly a huge show of the same was displayed.

Women are asserting their right everywhere. It is not only in India that they have been assigned a secondary position. On the whole face of the globe, they are nowhere considered men's equals. There may be a difference of degrees, that is all. They have awakened to this injustice

and will use every possible means to set it right. International Women's Association and all such federations are collecting their forces, and they are not going to rest till they achieve this goal. They are glad that the 'days of chivalry are gone'. They wish to stand on their own and not as glass dolls protected by men. Indian women also are joining these. Women of this city are not going to lag behind. The great crusade against man-made unjust laws and customs once started, is sure to succeed in future—distant though it may be, when unnatural distinctions, unreasonable beliefs, deep-rooted evil customs and undeserved hardships of women will come to an end and harmonious happy social life will be established.

J. Castellino, B.A., B.Sc., Econ. (Lon), F.R.E.S., (Eng).

AHMEDABAD AND THE B.B.&C.I. RLY.

AS is well known, the harnessing of steam-power to a locomotive on wheels effected the greatest revolution in transport that has ever taken place in history. Over a century ago, in England, a tremendous impetus was given to the development of rail transport by the so called 'Industrial Revolution' which fostered the localisation of industries, and the regimentation of labour in areas geographically suited to such a development. In India, it was the advent of the railway which made possible a complete change in methods of trade and transport. The village economy was shattered; so was its isolation; trade barriers were broken down and distances annihilated. India began to feature in the comity of nations as a country with an infinite capacity for swallowing up the machine-manufactured goods of Europe, and for supplying the world with its multitudinous variety of raw products.

No small measure of this development in international trade is due to the B. B. & C. I. Rly. which was first granted its charter for the construction of a line from Surat, the cradle of the British Empire in India, to Ahmedabad, the Manchester of the Bombay Presidency. Actually, the railway commenced to function in 1860, between Surat and Broach, and the next year Baroda was linked up. The important section to Ahmedabad was built in 1863, so that the B. B. & C. I. Rly. served Ahmedabad even before Bombay. The next year a through connection was established between Bombay, the Gateway

Premabhai Hall

of the East, and Ahmedabad the acknowledged capital of Gujarat.

It is of further interest to note that Ahmedabad secured a connection with Delhi, the Imperial City, in 1879, and so served as an important link in the shortest chain between Bombay and the North. Eastwards and westwards of Ahmedabad, Metre Gauge Railways were subsequently built, so that Ahmedabad is a junction of no small importance. Railways radiate from the city in all directions.

The B. B. & C. I. Rly. has the distinction of being the largest commercially operated railway in India. In its present form, it is, of course, a fusion of many original transport systems. There is not the slightest doubt that all the railways, now administered by the B. B. & C. I. Rly. have exercised a strong creative influence on the social and industrial development of India during the present century. Linked as it is with the greatest port in India, by the shortest and quickest route, to Delhi and the North, the B. B. & C. I. Railway helped to open up the markets in the Punjab and the North-West Frontier Provinces, and soon obtained a pre-eminent position for general efficiency in the handling of traffic.

Gujarat is a province favoured by nature. Its soil is fertile, its coast navigable, its climate equitable and its peoples hardworking. But it needed a Railway to open out avenues for its economic development, and the B. B. & C. I. Rly. which runs right through its entire length has endeavoured to serve ably and fully, and if there is any city which owes anything of its remarkable and almost romantic growth to a Railway, it certainly is Ahmedabad. The B. B. & C. I. Railway has been the most potent

force in its social, commercial and industrial development.

Delhi has always occupied a unique place for centuries. It is one of the most ancient capital cities of India. Bombay was bound to eclipse every other port in virtue of its fine harbour and its proximity to Europe;—It is the natural Gateway of India. But what Ahmedabad owes to the Railways, and particularly to the B. B. & C. I. Railway, is almost incalculable. Without a navigable river and with imperfectly developed roads, the economic development of Ahmedabad is dependent solely on the railway systems that serve as vital arteries for her vast and rapidly improving trade.

The importance of Ahmedabad as a Railway centre can easily be gauged from the amount of traffic that is handled there by the B. B. & C. I. Rly., which naturally deals with about 3,75,000 tons inward and 1,50,000 tons outward at the Broad and Metre Gauge stations in Ahmedabad. On the passenger side, the prominence of Ahmedabad is exemplified in the intensive services that are provided for its inhabitants. Half a century ago, there were only 12 trains daily to and from Ahmedabad. Today no fewer than 53 trains run into and out of this great junction.

The Railway's policy of always keeping abreast of the time, and of perpetually meeting traffic requirements is clearly proved by a reference to the Time Table. In 1878, the mail train from Ahmedabad to Bombay took over 15 hours to complete the journey; today it makes the trip in 9 hours. On the Metre Gauge Section, 50 years ago, the mail train from Delhi spent 35½ hours on its way to Ahmedabad; today, the journey is performed in 22½ hours. *Pari Passu* with the increase in speed, there has been an improvement in

rolling stock and other facilities. The B. B. & C. I. Railway has an enviable reputation for the comfort of its carriages, the courtesy of its staff and the modernity of its methods.

It is almost axiomatic that while the commercial importance of a city is reflected in the density and variety of its transport system, the character of its development is ultimately conditioned by the geographical factors and the means of communication. The greatness of Ahmedabad is, therefore, a tribute to the policy of the Railway which serves it. And there is not the slightest doubt that Ahmedabad is great; its civic achievements are at least equal to those of other large cities; its record of public munificence is honourable; its textile industry is probably superior to that of Bombay; and the variety of industries as numerous as that of Cawnpore or Delhi.

Tribute must then be paid to the vision and faith, the courageous patience and the dogged perseverance of those men who boldly threw bridges across rivers and carved tunnels out of hills, in order to link up vastly separated areas in this great sub-continent of India. Who would have believed, six or seven decades ago, that they stood on the threshold of a new age, however much a person, filled with admiration for the mechanical wonders of the age, strove with apt comparison and improving discourse to prove that steam had revolutionised everything? Would that it were possible to shelve our knowledge of how abundantly and completely the early expectations of railways have been fulfilled and to recapture the feelings of our ancestors when confronted with what still seemed, after success in the West, a dubious experiment in the ageless unchanging East.

Mangaldas Town Hall



Though railways have kept up step with every development in the progress of civilisation, the advent of the bus and the lorry has prejudiced the interests of railways. However, it is now gradually and universally recognised that the maintenance of an efficient railway system is a national necessity. The B. B. & C. I. Railway with its wonderful tradition and its great heritage is unceasing in its efforts to meet and fulfil the transport requirements of Ahmedabad.



Friday fair

Rotarian K. L. N. Iya, B.A.,LL.B.

THE DEVELOPMENT OF POST & TELEGRAPH SERVICE IN AHMEDABAD

DURING the middle of the 18th century, reporters of secret service were appointed for the province and other *Parganas* throughout the kingdom. They were empowered to keep 20 horsemen for the additional duties of the superintendent of posts. In former times, the ordinary reporters were found making false reports; so these Sawanîh Nawis (reporters of the secret service) were secretly engaged in the provinces to submit their own reports. As they had to work as postal superintendents, they sent their reports every week openly, enclosing letters, applications of the Nazims and Diwans, treasury account sheets, by the postmen who carried the mail bags from one station to another. Postal stations were built from Ahmedabad, on the road to the capital at Shahjahanabad (Delhi), right upto the Frontier district of Khandab purani, thus connecting with the stations of the province of Ajmer. Carriers were enjoined to go one Koss per *ghari*. At every station the Faujdars, Thandars and Zemindars kept scouts ready to escort the carriers without delay as soon as they arrived. 12 days—in urgent cases one week—were allowed for the whole journey. Delay was punished by deducting one-fourth of the wages. 62 carriers in all receiving Rs. 250/-per month according to provincial regulations were engaged and received their salaries from the royal treasury, their

attendance being certified by the Diwan of the province.

The exclusive right of conveying letters by post within the territories of East India Company was vested in Government by Act XVII of 1837. By 1855 there were 700 post offices in the whole of India and there is reason to believe that Ahmedabad was one of them. A new Post Office Act came into existence in 1866. By then Ahmedabad was connected by rail with Baroda. In 1869, we see Ahmedabad as an important centre for distribution of mails for and from 5 different lines, viz. (1) Bombay (2) Deesa (3) Rajkot (4) Oodeypore (5) Bhavnagar. A little over 1,000 paid unregistered articles were received for local delivery, while twice that number were transit articles. Besides the Ahmedabad Post Office, the Camp Post Office (present name Cantonment sub office) were in existence. There were 11 clerks and 18 postmen employed in the Post Office at Ahmedabad. The travelling Post Office (present R.M.S.) took over the sorting of mails in 1878. The present status of first class was accorded to Ahmedabad in 1884, when its population was 116,873* and its area 2 square miles. The daily number of unregistered articles received for delivery was about 2,600. By 1896 A. D. this number rose to 7,000 a day and today it is about 20,000, while Railwaypura, Cantonment, Shahibag and Sabarmati offices receive about 5,000 more. The population of Ahmedabad was about 2 lakhs in 1901, went upto 2 $\frac{1}{2}$ lakhs in 1921 and is about 5 lakhs now. The Head Office has now got a staff of 3 Deputy and Assistant Postmasters, 2 Supervisors, 3 Inspectors, over 50 clerks and 90 postmen. The number of Sub Offices has gradually increased and today there are in all 23 sub offices and 2 branch offices, about 10 new offices

having been opened during the last 8 years. There is still need for more offices and the question of opening 3 more offices has been taken up already and will materialise when financial considerations permit. The increase in postal traffic has been in much greater proportion than the increase in population because of the great advance of trade and industry. Ahmedabad was linked by Air when Messrs. Tata & Sons started in October 1932 their feeder service from Karachi to Madras in conjunction with the Imperial Airways. The service was weekly in the beginning, became by-weekly shortly after, and with the inauguration of the Empire Air Mail scheme, the planes touch this air port 5 times a week in both the directions. This air port serves the whole of Gujarat, Kathiawar and parts of Rajputana and Central India. The establishment of a Wireless Station and a Direction Finding Station marks the latest phases of development as connected with air transport.

The Post Office was housed in a rented house till 1896 when it moved to 'Azamkhan's Palace', one time a palace which was later used as a city jail. This building was declared a protected monument in 1909 on account of which additions and alterations could not be made to suit the requirements of the Post Office. The department, therefore, purchased a site in 1914 but as the War came on, the construction of the building was completed on 8th June 1931. The design was prepared in 1916 by late Mr. W. G. Wittet, Consulting Architect to Government of Bombay. The general design as well as details of stone work were kept similar to the beautiful buildings of Muhammadian period in Ahmedabad. The original design provided for a dome in the centre and turrets with domes at four corners.

Considerations of economy militated against having these ornamentations and a plain flat roof was the result. In the shape of arches and the carving of stone pillars and gables a pleasing similarity to the work in Rani Rupamati's mosque nearby is discernible.

TELEGRAPHS

Prior to 1908 there was only Morse Telegraphy as is to be found in small places like Viramgam, Sanand etc. In 1908 typing the messages direct from the receiving instrument was introduced, thus eliminating the troublesome factor of illegible writing. This was confined to big offices handling a large amount of traffic.

In the year 1910, low resistance batteries were introduced, technically termed 'Universal Batteries' in place of batteries of primary cells. This could give greater voltage and also work more lines on the same battery. It was then feasible to introduce faster systems of telegraphy requiring greater battery power.

In 1913, Wheatstone Telegraphy was introduced, wherein telegrams used to be punched on a perforator and this punched tape used to be sent through transmitters which used to transmit at a speed of even 150 to 200 words a minute normally. This speed could be increased under ideal conditions. These signals were reproduced on a tape at the receiving station with printed morse-signals. This had to be transcribed later on. This used to cause delay and this was its great drawback, as, inspite of the fast speed in transmission, a good deal of delay occurred in transcribing and obtaining corrections to multilations. The Wheatstone system was superseded by Baudot (Bodo) Printing Telegraphy in the year

1919. This system (Baudot) consists of a transmitting apparatus resembling a small piano of five keys whose different combinations could reproduce the whole Alphabet, figures and a few punctuation marks. These signals were transmitted directly on the line and were simultaneously received by the receiving station on a receiving apparatus which could automatically print full telegrams on a tape automatically propelled during the process of printing. This very ingenious apparatus was invented by a Frenchman named Baudot (Bodo) after whom the system has been named. This system eliminated the delay in transcription in the Wheatstone system, though the transmitting speed was less. Due firstly to long distances in India and secondly to mechanical limitations of the receiving apparatus it was found safe to operate at a net speed of 30 words per minute, and the speed of this system was fixed to about 35 words per minute. This system is flexible and number of channels can be arranged to send and receive traffic on a singleline between more than two stations.

With the general advancement and the introduction of long distance Telephony (Trunk Calls) in the year 1920 even this safe and fast system of Baudot was found to be incapable of competing with its younger brother, and therefore the Murrar system was introduced in 1935, whereby a typewriter key-board is used to prepare messages for transmission through an automatically operated tape-transmitter. This method eliminated the necessity for specially trained operators and reduced the operating strain.

The introduction of Telephony and its subsequent development is a well-known history. This entailed con-

struction of extra lines and the ever present factor of economy had to be paid very great attention to. Not to be outdone, the engineers of the world found out that on one pair of telephone lines (commonly known as one trunk line) they could superimpose a number of Telegraph Carrier Channels which could be worked independently and simultaneously, without interfering with one another. This system will shortly be installed between Bombay and Karachi, Ahmedabad being one of the Carrier Repeaters for amplifying the signals.

Ahmedabad-Rajkot and Ahmedabad-Bombay are now working on Teleprinter System. On this system the messages are typed on a machine which has a standard typewriter key-board, the transmission and reception being direct, without any punched tapes etc.

Rotarian R. Natarajan

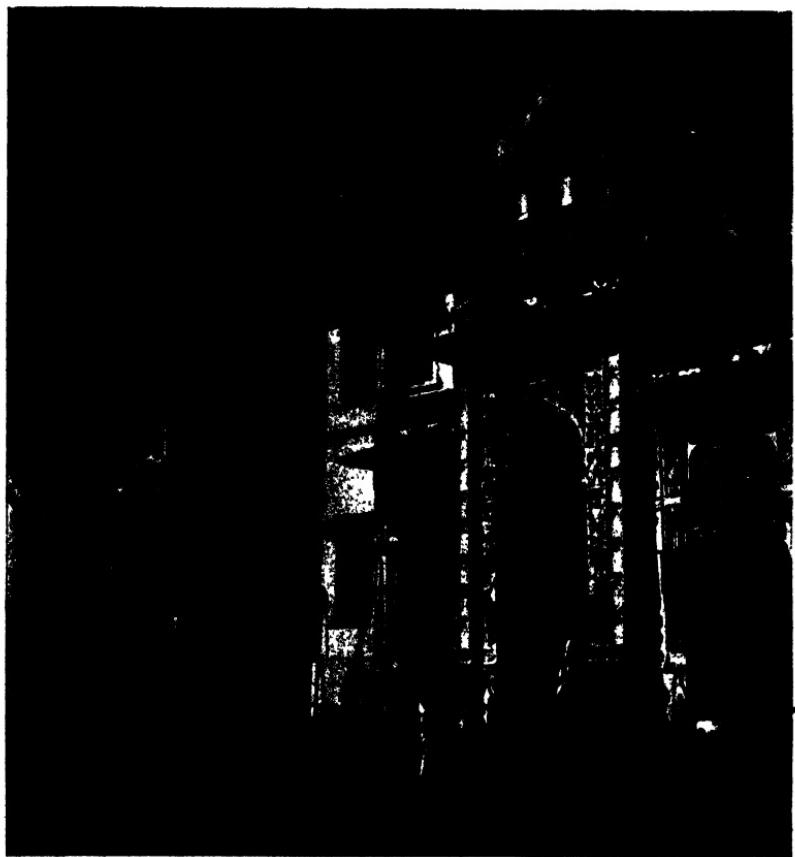
DEVELOPMENT OF TELEPHONE SERVICE IN AHMEDABAD

VERY soon after the telephone was invented a number of far seeing and eminent gentlemen in the city of London realised its possibilities not only in Europe but in Asia. Among them were professor Thomas Alva Edison, Sir William Thomson, L.L.D., F.R.S., M.I.C.E. (afterwards Lord Kelvin) and Professor Alexander Graham Bell who himself was one of the inventors of the telephone. They formed a company called the Oriental Telephone Company Limited and proceeded to open Telephone Exchanges in various parts of the world.

Bombay, 'Urbs Prima in India,' was naturally the first place chosen in India in which to start a telephone system. That was in 1882. As stated in the original prospectus of the Bombay Telephone Company Limited there were 'nearly 100 subscribers to the Exchanges'. Since then the system has gradually spread.

AHMEDABAD

The Company inaugurated its service in Ahmedabad on the 17th July 1897 with 34 subscribers. The Exchange which was of the Magneto Type was located in a building near the Panch Kuwa Gate and was successfully operated at this place until 1916. At that period a modern Central Battery Equipment, whereby a subscriber called the Exchange by the mere fact of the removing of the receiver from the hook, was inaugurated and installed in a building at the corner of Shahpur and Mirzapur Roads.



Modern Mosque

The system developed until it was necessary to enlarge it and the Exchange was increased to its full capacity in 1922.

The phenomenal development of the Mill Industry in Ahmedabad led to such an increase in the number of telephones that the Company decided that Ahmedabad subscribers should have the benefit of the latest modern telephone practice.

Automatic equipment of the latest Line Finder Type with accommodation for some 1200 subscribers was ordered, and this was installed by the Company's staff and put into service in September 1934 in the 'Telephone Building' newly erected at Shahpur Road.

A growing town develops new suburbs, and Ahmedabad has proved no exception to this rule. Early in 1932 it became necessary to build another Exchange on the west side of the river in the Ellis Bridge district to accommodate the urgent need for additional telephones. This Exchange was also replaced by automatic equipment in 1936.

A novel item of the service is the operation of the automatically announced 'Time' equipment. This is done mechanically by means of synchronized gramophone records, and the subscriber on dialling '04' hears the time announcement to the nearest minute.

In order to meet the increasing demand for telephone service the Company has erected an additional Exchange on the south side of the City near Raipur Gate. This will serve subscribers in the Kankaria, Jamalpur and Maninagar districts. Ahmedabad for its size has a very large telephone call rate, Central Exchange carrying 43,000 calls per day and Ellis Bridge 2,400 calls per day.

Today Ahmedabad possesses the finest telephone system in the Kathiawar and Gujarat districts.

There are now about 15,500 subscribers to the Company's system at Bombay, 1,450 at Karachi and 1,300 at Ahmedabad. It is a pity that Lord Kelvin, Professor Edison and Professor Graham Bell cannot pay a visit and see the results of their foresight.

So confident were they of success, that they guaranteed a dividend of 8 per cent per annum for the first five years. 8 per cent is the present rate of dividend paid by the Company, but as the shareholders have left funds in the business equal to their share capital, the return on the money employed is only 4 per cent, so the Company is either less successful or less rapacious than its progenitors, according to whether the matter is viewed from the shareholders' or the subscribers' point of view.

Rotarian W.U. White

ELECTRIC SUPPLY IN AHMEDABAD

AHMEDABAD has always rightly been regarded as a progressive city in so far as the development of her public services is concerned, and in no direction has this spirit of progress been more marked than in the development of the use of electricity. In evidence of this it is of considerable interest to note that when the city-fathers of something over a quarter of a century ago first heard that it was intended to start an electricity company in Ahmedabad, they petitioned the sponsors of the project not to introduce what they then considered to be a dangerous and undesirable innovation into their old world city. What an interesting contrast this makes with conditions in Ahmedabad today? Her well-lighted streets and up-to-date water-supply and drainage arrangements challenge comparison with any city in India and electricity has come to be regarded as one of the every day essentials of the life of the community.

There is no more fascinating study than the gradual and increasingly rapid spread of electricity to all classes of the community in Ahmedabad during the past 26 years. These years have seen the conversion of electricity from a comparative luxury to an amenity within the reach of almost the humblest purse. Statistics are sometimes apt to be misleading, but it is interesting to note that in the year 1916, which was the first full year working of the Ahmedabad Electricity Company, the total number of units sold during the *year* to the public and the Municipality for all purposes was 1½ lacs. Today the Com-

pany's average *daily* sales are considerably in excess of 1½ lacs units. During this same period the annual Municipal consumption has increased from 42,000 units to more than 60 lacs. These two examples give some idea of the enormous growth of offtake since the inception of the Company. We could quote many others.

MUNICIPALITY'S PROGRESSIVE POLICY

Ahmedabad citizens owe much to the progressive policy which has been consistently adopted by their Municipality, which have not only insisted on well-lighted streets in every part of the town but have employed electricity for their water-supply and drainage schemes, thus ensuring the highest measure of efficiency for these important branches of the public service. The Municipality have also recently installed automatic electric lights to deal with increasing traffic in the city, a further example of progressive methods. The Supply Company, too, must be given a share of the credit for these developments, for without the aid of the very low rates at which the Company is supplying energy, we venture to suggest that such progress would have been impracticable.

ADVANTAGES OF ELECTRICITY

It would perhaps be of interest to investigate the reasons for the enormous increase in the consumption of energy which has occurred since electricity was first introduced into Ahmedabad.

The answer is not far to seek, and it is probably unnecessary to dilate here upon the undeniable advantages of electric supply as every person who reads this article has had experience of them in one form or another. For lighting purposes the electric lamp is cooler, cleaner and

more efficient than any other yet known form of artificial illuminant. The only factor which has hitherto prevented its universal adoption has been the question of cost. This problem, however, is rapidly becoming less and less important as with increasing consumption and improved service the price of the commodity is continually being reduced, and in the not far distant future it is reasonable to assume that electricity in addition to being, as it is today, the most efficient lighting medium, will also be the cheapest. Only one factor can prevent this hope from being realised,—the Electricity Tax on which we shall have some comments to make later in this article.

The uses of electricity, however, are very far from being restricted to lighting. The electric fan wherever power is available has completely ousted the old fashioned *punkah* air-conditioning; though as yet in its infancy, it is predicted by the experts to be certain to make tremendous strides forward in the next few years. Electric refrigerators and cooking appliances are becoming increasingly popular. Electric pumps are becoming more and more widely used. But possibly the most striking advance in the use of electricity in India, and in particular in Ahmedabad, has been in the field of industrial power supply. The textile industries are taking increasing advantage of the undeniable superiority of electricity in the operation of all kinds of machinery, and more and more mills and factories in Ahmedabad are taking power from the Supply Company's mains on account of its cheapness and reliability. There is another important factor which influences the use of purchased power, that is the freedom from Power House worries which it gives to the user, who, not only can concentrate on his production problems



Rani Sipri's Mosque

but is saved the heavy capital expenditure necessary to provide the duplicate plant which is essential for absolute security.

AHMEDABAD ELECTRICITY CO. EARLY STRUGGLES

The history of the Ahmedabad Electricity Company, like that of the city it serves, is one of progress. The Company was formed in 1913 with its headquarters in Bombay. The Board of Directors has contained many well-known names including the late Sir Jamshedjee Jeejeebhoy, BART., the late Sir Vithaldas P. Thackersey, kt., the late Khan Bahadur Sirdar Rustomji Jehangirji Vakil, Sir Purshottamdas Thakurdas, kt., C.I.E., M.B.E., Ambalal Sarabhai Esqr., Sir Kikabhai Premchand, kt., Sir Chunilal V. Mehta, K.C.S.I., and Chamanlal G. Parekh, Esqr. Messrs. Killick, Nixon & Co. are the Company's Managing Agents.

The original Power Station was situated at Shahpur Road, Ahmedabad, and the plant then consisted of three 94 K. W. Diesel Oil Engines. Supply to the public was commenced in February 1915, and by September of that year, 261 consumers had been connected to the Mains and 268 street lamps were in commission. The delay between the time the Company was formed and the date of giving supply was due to the late delivery of the 3 Diesel Sets ordered from Europe owing to the outbreak of the Great War. In fact during the war years (1914–1918) the Company's activities were frequently severely hampered by the difficulty experienced in obtaining plant, cable and other materials. Many extensions to the Company's Mains which would otherwise have been carried out were of necessity retarded. In fact the early years of the Company's history were trying ones in more ways

than one, and a variety of unforeseen and unfortunate circumstances combined to prevent the steady growth of consumption which would otherwise most certainly have occurred. Apart from its effect on delivery of materials and plant from Europe, the War was responsible for a general rise in the cost of labour and all classes of materials which was bound to react unfavourably on a Company which had only just started to operate. In the winter of 1917-18 an exceptionally severe visitation of plague was experienced in Ahmedabad. To make matters worse, this was followed the next winter by the devastating epidemic of influenza, and the two caused a very heavy death roll. But there was another aspect of the dual outbreak. So panic-stricken did the inhabitants become, that it was estimated that at one period no less than two-thirds of the total population had left the city. However, in spite of these adverse factors the Company began to expand its activities, and in 1917 the shareholders received their initial dividend (4% less tax). That year was also notable for the fact that two mills started to take electric supply from the Company for power purposes, —The Advance Mill and The Jubilee Mill. Previously the Company's business had been restricted to lights and fans, and small power. Soon the Company's available plant was loaded to its full capacity and in 1918 it became necessary for the Company regretfully to notify its inability to accept any new applications for supply, as, after making provision for all the contracts then existing, the capacity of the plant was insufficient to meet further demands upon it. It was at that time impossible to obtain plant from Europe under any conditions owing to the War, and the outlook for the Company must indeed have been

a gloomy one, as the plant was running for long periods at full load with no standby plant available in the event of a breakdown and no prospect of obtaining any, while the natural expansion of the Company perforce completely ceased—a most undesirable position for a young and growing concern. During this period the supervision needed to prevent an overload and consequent breakdown must have been very considerable, as opportunities for proper overhaul were non-existent. In 1919 to add to the troubles of the Company grave riots took place in the city and attempts to put the Power Station out of action were only frustrated by the loyal behaviour of the staff.

END OF THE GREAT WAR BRINGS RELIEF

In the previous year, however, the Armistice had been signed, war conditions ceased and the Company was able to order two 240 B. H. P. Diesel sets from England to augment the existing and sorely tried plant. Repeated postponements of delivery, however, meant that those sets were not finally received from the manufacturers until 1921 and in the meantime the plant question had become so acute that three additional 240 B.H.P. sets had been ordered. The fact that continuity of supply was maintained throughout this trying period, reflects the greatest possible credit on the staff concerned and speaks highly for the durability of the plant. The extent to which the normal growth of electricity had been retarded during the war is well illustrated by the fact that it became necessary to order Three additional sets of 750 B. H. P. each during this same year (1921). In spite of restrictions imposed on its activities by the adverse conditions we have men-

tioned, the Company had done sufficiently well to warrant paying dividends each year between 1917 and 1921, and the growing faith in the future of electricity in Ahmedabad is shown by the fact that the capital necessary for the purchase of the three 240 B.H.P. sets was readily subscribed by the existing shareholders. The three original 94 K.W. sets which had done such yeoman service, were sold to the Surat Electricity Company in 1922 to make room for the new and larger machines.

NEW PROBLEMS

New difficulties now began to face the Company however. There is no doubt that the provision of so much extra plant was a vital necessity in order to give connection to those applicants for supply who, through force of circumstances, had remained so long on the Company's waiting list. This involved heavy capital expenditure which under more normal circumstances, would have been spread over a number of years. Much of this capital was, for a time, necessarily unproductive, until such time as the programme of Mains extensions, which had perforce been held in abeyance for so long, could be completed. Consequently dividends were lower during the next two or three years inspite of the fact that new consumers were being connected as fast as they could be dealt with. One reaction of this unavoidable and unfortunate situation was that the shareholders and general public only subscribed a small proportion of the new capital which had to be issued in 1923 to meet the cost of the three 750 B. H. P. sets this inspite of the fact that the Company's business was steadily increasing and showed every likelihood of continuing to do so. As

a result of this position, an issue of Debentures was floated to provide the remaining capital required. It is a good indication of the difficult times through which the Company had passed since it commenced to operate, that the years 1923–1925 represented the first period during which the Company had had an opportunity of carrying on its business unhampered by the necessity of continually adding to its plant capacity and the first time for many years, when it had had a substantial reserve of plant which was not fully loaded.

TRADE DEPRESSION

In 1924, when the Company's plant was at least in a position to deal with increased demands for supply, there was a trade slump which slowed down progress considerably. These conditions prevailed in the following year (1925) also, with the result that the Company failed to pay a dividend for the first time since the Company came on to a profit earning basis. Throughout this period the Ahmedabad Municipality had been very active in adding to the number of roads lit by electricity and generally continued to give a valuable lead by their progressive policy. Consumption of energy for lights and fans, both by the public and the Municipality, continued to increase steadily. Motive Power users, however, were much affected by the prevailing trade depression and little progress was made in this direction during the next two or three years. Some idea of the financial stringency during this period may be gained from the fact that many applicants for supply subsequently cancelled their applications owing to their inability to finance their original intention of taking electricity.



Balcony of Rani Sipri's Mosque

RECOVERY

Conditions gradually improved, however. The Company resumed paying a dividend (6% less tax) for the year ended 30th September 1926, owing to increased sales and the only outstanding event of 1927 was the cyclone and flood experienced during the monsoon. The Company, however, was the least affected concern in Ahmedabad and continued to function with success, thanks, in no small measure, to the excellence of the materials employed both or machinery and mains and to the skill and perseverance of the operating staff. The presence of electric street lights during the height of the trouble proved of very great assistance and encouragement to the people of the city and to the Municipality.

REDUCED MOTIVE POWER TARIFF

In 1928, a substantial reduction in the Motive Power tariff was introduced and was almost immediately met by a very much increased off-take. To meet this demand, further plant had to be ordered and a 900 B. H. P. Diesel set was installed in August 1929. Early the following year, the Municipality entered into a new five year agreement with the Company, the previous contract having run since 1915. The Company continued to extend its system of mains throughout the city and this was particularly noticeable on the right bank of Sabarmati river, where many new residential suburbs were springing up. Neither the general trade depression of 1930 nor political upheavals in India, whose centre of origin was actually located in Ahmedabad could arrest the public's increasing appreciation of the various uses of electricity.

ERECTION OF THE STEAM-STATION

By 1932, the activities of the Company had expanded to such an extent that more power was required but it was impracticable, owing principally to lack of space to increase the capacity of the Diesel plant in the existing Power-Station. It was therefore decided to erect a new and much larger station operated by steam turbines. A suitable site for the new station was secured near Sabarmati and erection was completed in 1934. Two generating sets of 3,750 K.W. each, were first installed, bringing the total capacity of the new station to 7,500 K.W. compared with 2,910 K.W. at the Diesel Station which by this time was once more fully loaded. The confidence of the shareholders in the continued growth of electricity is shown by the fact that the new issue of shares to meet a part of the very substantial capital expenditure which had to be incurred in the erection of the new station, was heavily oversubscribed. This change-over from Diesel engines to steam turbines, was a landmark both in the continued progress of the Company and the city of Ahmedabad. Extensions in the suburbs, where new housing societies were springing up, proceeded apace, until practically the entire residential area of the city and its suburbs was covered by a network of mains and still the public's demand for electricity for lighting, fans and domestic purposes continued to increase.

FURTHER MOTIVE POWER TARIFF REDUCTIONS

But apart from the necessity of installing a Steam Station to meet the ordinary demands of the city the increased plant capacity enabled the Company to introduce tariffs for industrial power which were framed with the

object of providing cotton mills and other power users with energy at really attractive and competitive rates. The response was almost immediate. The supply of low priced power proved of general benefit to the trade and industries of the city and several mills began to take power from the Company in varying quantities. The Municipality too was not slow to take advantage of the more advantageous rates which the Company now found it possible to quote owing to the greater efficiency and consequently lower cost of production of the new Station. A new contract for a period of 7 years was concluded in 1935 to the mutual satisfaction of both the parties, whereby the Company undertook to supply the entire electrical requirements of the Municipality which had by this time extended to pumping and drainage services, as well as still further extensions of the street-lighting system.

In accordance with the Board's expressed intention of providing cheaper electricity from the new Power Station, substantial reductions were made in 1935, and again in 1936 in the tariffs charged to the general public.

SUBSTANTIAL REDUCTIONS TO L. & F. CONSUMERS

The 6 annas per unit, rate for lights and fans was reduced to 5 annas per unit rate for the first 10 units with the balance at 4 annas and that for domestic supplies from 2 annas per unit to 1 anna. The minimum charge was removed altogether—a bold step, as every consumer, whether he takes supply or not, costs the Company a certain amount of money in overhead charges such as billing, meter-reading and interest on the capital expended in financing his service line etc. However it was felt that this was an important factor

in the Company's policy of popularising the use of electricity amongst even the smallest householders, and results show that the removal of the minimum charge coupled with the other reductions mentioned above, did in fact make supply available to an entirely new class of consumer.

PROGRESS

The history of the Company during the four years which have passed since the erection of the Steam Station is too recent to demand any very detailed description. Consumption of electricity for all purposes has increased to such an extent that a turbine of 7,500 KW. capacity had to be installed in 1936 and another one of the same capacity in 1939, and a fifth set of similar capacity is expected to be in operation next year, thus bringing the total capacity of the Station to a figure of 30,000 KW., a long road from the three 94 KW. Diesel sets which represented the Company's total plant as recently as 1920. Further extensions to the plant on a large scale will probably be necessary very shortly. 23 Mills and factories are now taking supply direct from the Company for power purposes, while two more have contracted to take supply. The peak load in 4 short years has grown from 2,000 KW. to more than 10,000 KW, in round figures, 185 miles of streets are illuminated by 6,900 street lamps and today the Company has on its books more than 15,000 consumers as compared with 4,700 when the Steam Station commenced operations in 1934.

Inevitably the progress we have outlined has necessitated large increases in the capital of the Company from time to time. The following figures give a good indication of the strides forwards which have been made.

ISSUED CAPITAL

1914	,	Rs.	500,000
1919	,	"	750,000
1922	,	"	1,500,000
1932	,	"	1,900,000
1934	,	"	3,000,000
1938	,	"	7,500,000

During this period the average return to the original investor (free of Income Tax) has been 5.1%.

The Company's original offices in Shahpur Road became inadequate and the erection was commenced, on a site at Lal Darwaza, of a larger office building on up-to-date lines which has now been completed and which is capable of extending much improved service to the public.

This article would be incomplete without some reference to Messrs. Callender's Cable & Construction Co. Ltd., who were responsible for the erection and equipment of the original Generation Station in Shahpur Road and have since acted as the Company's Mains Engineers. Their wide experience of sound materials and thorough workmanship have been of great value not only to the Company but also to the Street Lighting equipment in the city which they have installed for the Municipality.

THE FUTURE

In conclusion one's thoughts naturally turn to the future of electric supply in Ahmedabad. What does it hold in store? In so far as the development of the use of electric power in the Mill Industry is concerned we, believe that Ahmedabad Mill Owners are becoming increasingly aware of the great advantages to be derived from "Purchased Power". As regards the Lights and

Fans consumers it has always been the policy of The Ahmedabad Electricity Company to encourage, to the fullest extent, the use of electricity by the small user, and we feel confident that successive rate reductions, and in particular the removal of the minimum charge, have made it possible for every consumer, no matter how small his needs, to adopt electricity with the sure knowledge that no other form of illuminant with similar advantages is available so cheaply. Unfortunately the electricity tax introduced in 1933 and increased in 1939 falls heavily on the "Lights and Fans" consumer and the present incidence of tax is over 25% of energy charge which considerably restricts the use of electricity.

The Ahmedabad Electricity Company has an enviable record of service to maintain and there seems no reason why, in the years to come, the Company should not continue to advance, hand in hand, with the development and progress of the city which it serves.

Harinarayan Girdharlal Acharya, B.A., F.Z.S., F.R.G.S.

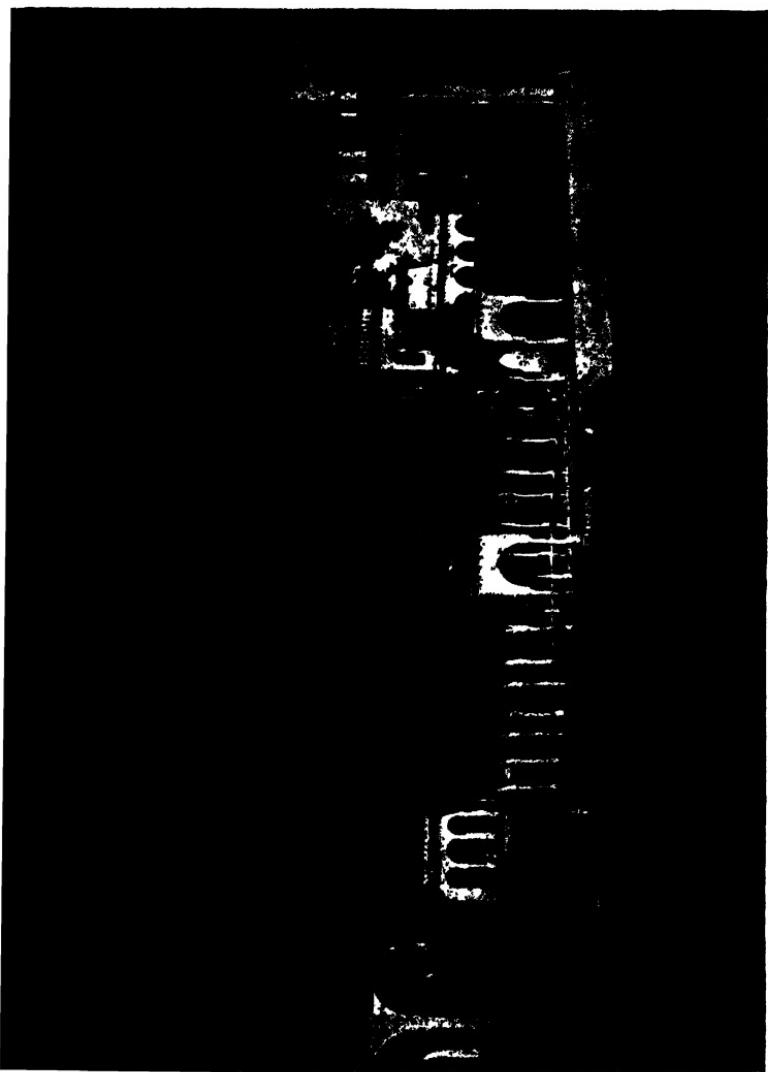
NATURAL HISTORY AROUND AHMEDABAD

BOTANY

THE district of Ahmedabad forms only a small portion of that part of the Bombay Presidency which extends from the right bank of the Mahi R. upto the Run of Cutch and district of Kathiawar and which is popularly known as the North Gujarat. The country is a vast plain with no mountains to break its monotony. The general slope of the land is steadily from N. E. to S. W.. East of the city of Ahmedabad one frequently comes across rich black soil. South of it is a tract containing rice fields partly original and partly rendered possible by the irrigation canals. In the north, rice fields become fewer until they entirely disappear. But the western part of the district, from Ahmedabad to Deesa, is a vast tract of pure sand. In fact the general character of our district is 'sand.' It embraces the whole area and passes into stony hills beyond. At Kharaghoda, it passes from sweet into completely brackish.

This sand is not entirely flat. The land rises and falls in most places. In some places small hills occur where sand is hard and coagulated. Again due to the effect of storm water, the sandy banks of rivers and streams in our area are cut up into a net work of ravines called "Vāngħās", often haunts of small carnivora.

In addition to being intersected by rivers and streams, this sand area is also covered by several depressions



Shah-i-Alam

which form part of the important chain of irrigation lakes. The chief among these is the Bokh, a big marsh with a couple of shallow lakes.

Another feature of the district, which directly influences the vegetation of our area, is its Irrigation System. The dammed up waters of the Hathmati R. are diverted into the Bokh, which in its turn, feeds the Khari R. After irrigating a large part of South Daskroi, the Khari Cut-Canal runs into the Chandola lake, which in itself is an irrigation source. These irrigation works, though they profoundly modify the vegetation under their direct influence, do not materially affect the distribution of species since in the area crossed by channels, natural lakes and swamps are common.

Bearing these aspects in mind, it will be easily understood that the vegetation of our area is not uniform. Without being particularly rich in species (600 or so), our flora is very varied and cosmopolitan.

Due to scanty rainfall, Xerophytes are prominent. The country is also well adapted to Annuals due to long wet spells in July and August. But we have no Evergreen forests as the rainfall is minimum for a forest to obtain footing. Marshes and tanks being very common, Cyperaceae are very well represented. On the other hand meadows and damp shady woods are entirely absent which accounts for the total absence of Orchids (with a solitary exception, '*vanda roxburgii*'). Touching as it does the fringe of the very dry Malva forest system, it is but natural that the more important tree-bearing families should be very thinly represented. The commonest trees that adorn our countryside are the Mango, Tamarind, Nim, Mahuva, Palash or the Flame

of the Forest, Wood apple, Heaven's Tree, Banyan, Pipal, Pipali, Wild Fig, Jambu, Rayan, Kanji and several varieties of Acacia.

But Grass Lands are a peculiar feature of North Gujarat. Under their direct influence, Ahmedabad has become the headquarters of the dairy and butter-making industry.

Another feature of our countryside is the preponderance of the Babul over all other vegetation, especially in the North and West regions of Ahmedabad, where extensive tracts covered by these trees are very poor in herbaceous plants. This is due to the Sabarmati R. overflowing its banks, thus planting masses of Acacia branches and seeds brought from North, which in short time change the appearance of the entire face of the whole countryside.

ZOOLOGY

Zoologists divide the whole Animal Kingdom into two broad groups: the Vertebrates and the Invertebrates. It is proposed in this sketch to pass in review the principal Vertebrate animals of our district, beginning with the higher forms. The Mammals will therefore be first noticed and among them Primates, as being the highly organised. To deal with Invertebrates in a similar manner will require more space than is at our disposal, hence they are omitted altogether.

MAMMALS

The only Primate that is native of our area is the long tailed Lungur. Blanford is not correct when he says that the Rhesus is also 'common throughout Gujarat'.

Chiroptera are represented in our district by one Fruit-eating and several Insectivorous Bats. The former is the Common Flying Fox, which has been permanently

attached in our City to the Bhadra locality in several large colonies for the last 25 years. The only insectivorous bat that is commonly seen is the Indian Pipistrelle, always found hawking insects in company of swallows at dusk and which enters our houses with nonchalance.

The next order of *insectivorous* Mammals, though nocturnal in habits, is well-known. The chief among these is the Common Shrew or Musk Rat generally found near human habitations. The other is the Hedgehog, common everywhere.

Then there are the *carnivora*. Among the Big Cats, the Lion is at present confined to the Gir area, though there is an interesting reference to its existence at one time in the neighbourhood of Ahmedabad. According to Blanford, 'Lions were common near Ahmedabad in 1830' and a picture of a 'maneless' lion shot near Ahmedabad was published in the Transactions of the Zoological Society titled '*Felis Leo Guzeratensis*'.

Not so with the Tiger. It is only found in the Arvalli ranges.

The Panther is the commonest of our big cats, abundant in the rocks and scrub jungles of the Idar Hills, often found in the Vāngħas of the Sabarmati and the Vatrak Rivers. Col. Mosse once saw a Black panther in Idar though the locality is not congenial to the existence of the melanistic form.

We have no record of the existence of the Cheetah or Hunting Leopard in our area though they are known to occur in Kathiawar.

Of the Typical Cats, we have two: the Jungle Cat, living on the outskirts of every village and the Desert Cat found near Kharaghoda.

Hyaenas (the striped species) are found in nallas and rocky hills and on the outskirts of the jungles of the Aravalli Hills.

Of the Civets, we have the common Palm Civet, living in villages and towns.

There are also two varieties of Mongoose in our district; the species common around Ahmedabad is *H. Edwardsi*.

Of the *canidae*, the Common Wolf is rarely found. But Jackals are abundant while the Fox and the Wild Dog are found in suitable localities though none in the immediate neighbourhood of Ahmedabad.

The nearest haunt of the Sloth Bear is the low hills of Idar. The much maligned Indian Ratel can be occasionally seen at or near Kharaghoda. The Otter is sometimes found in the Sabarmati R. not very far from Ahmedabad. One was recently seen in the Kankaria Lake.

The next order of *rodents* is well represented in our area. The ubiquitous Striped Squirrel is well known. Then there is one species of Porcupine found everywhere in our locality. Of Rats and Mice, there are about 20 species, chief among them are the common Field Rat and the Longtailed Tree-Mouse, *vandeluria*. Only one species of Hares is to be found though not in hills.

Ungulates or Hoofed mammals are classified into two divisions, the Odd-toed and the Even-toed. Both are represented in our region.

Of the Odd-toed ungulates, only one species, belonging to the Equine family, is found living in the Run of Cutch, near Kharaghoda. It is the Ghor-Khar or the Asiatic wild Ass. It is the swiftest of all wild equines and can attain a speed of 40 miles and more when chased in a motor car.

There are five families of the Even-toed ungulates, well distributed in our area. To begin with, there is the Pig or the Wild Boar of India. Where formerly sounders could be seen in the immediate neighbourhood of the Gujarat College, it is now rarely found nearer than Chanda. Of camels, we have only the domesticated animal.

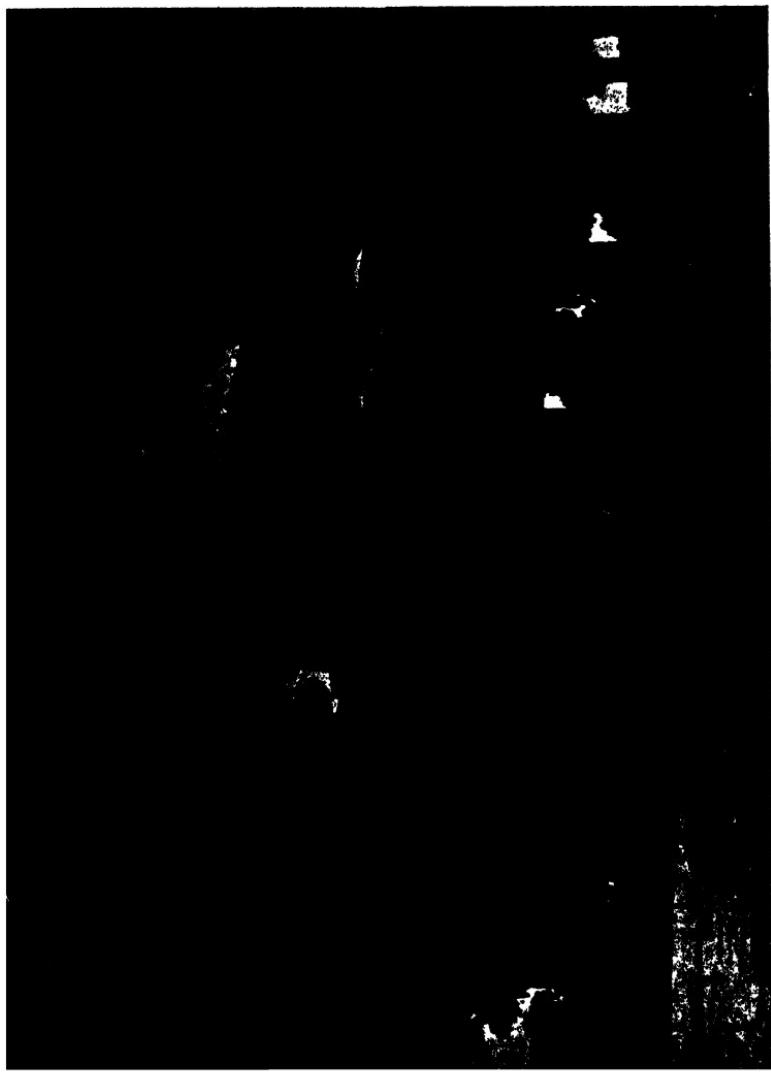
The typical Ruminants—*pecora*—are grouped into two families: the Hollow-Horned or *bovidae* and the Antlered or Deer—*cervidae*.

Of the first, the domesticated cow and buffalow, goat and sheep need no introduction. But the most interesting are the Antelopes. Of these, the Chinkara or Indian Gazelle, though not so abundant as the next animal, is still found in suitable localities. The Black Buck, an ornament of our countryside and the fastest of all four-footed animals, is also one of the most beautiful of all existing animals. Once plentiful everywhere, their number is fast diminishing every year due to indiscriminate slaughter under the dignified name of 'Sport'. The Nilgai is common in all parts. Last of the Antelopes is the Chausinga or Four-Horned antelope. A denizen of bush and thick jungle, it is found only on the border line of our district, in the Arvalli range.

None of the Cervidae (Deer) are found in the neighbourhood of Ahmedabad and to that extent, none in the plains. Those found on the border line of our area in the Arvalli hills, are the Kakar or Muntjac, the Sambar and the fairest of all deer, the Chital or Spotted deer.

BIRDS

Birds of our district number about 300, half resident, half migratory. Of these, 200 are terrestrial and arboreal



Dariya Khan's Tomb

species, while those living on or near water number 100. Only the commonest species are referred to in this note.

First come the Birds of Prey. Of the great scavenger family, the White-Backed Vulture is the commonest. Not so plentiful is the King Vulture. The so-called White kite or White Vulture is also found everywhere.

Two large Falcons—the Lugger and the Turumti live in open country, near villages and about cultivation. Two migrants are also found in winter: the Peregrine and the Kestrel. The Shikra is our resident Hawk.

The commonest of our Eagles is the Tawny Eagle (Guj. Dholvo). Pallas' Fishing Eagle nests around Chandola. Two jungle loving species are the Spotted and the Serpent Eagles. Osprey may be found in winter at Gobhalaj.

Three species of Kites are found in our district. The Pariah is the commonest. The Brahminy is seen on large tanks and rivers. The Blackwinged kite is nowhere common.

Of Owls, the Barn Owl is nowhere common. The Rock Horned may be seen in Shahibag area. But the commonest is the Spotted Owlet (Guj. Chibari).

Only one Swift is found in our area: the Common Swift, nesting in the heart of our City under gate arches in public buildings, temples and mosques.

The next order, *passeres*, embraces more than half of the Bird Fauna.

Of the wide-gaped Passeres, two common species are: the gregarious Cliff Swallow, whose nests are found near Pirana and the Red Rumped Swallow, which though social when feeding, is solitary in nesting season. The Wire-Tailed Swallow is found nesting in immediate vicinity of water. Two Martins are also found in suitable localities.

Only one Nightjar is common : the Indian Nightjar. The Common BeeEater and the Blue Jay are also found throughout the district.

Three Kingfishers are resident in our area : the White -Breasted, the Pied and the pretty little Common Indian Kingfisher.

The Common Grey Hornbill lives in Idar Jungles.

The Climbers are headed by the Parrakeets (distinguished from true Parrots by their green colour and long tails). The Green Parrakeet is our commonest species, abundant everywhere. The Blossom-Headed species is not so common. The biggest of the tribe is the Alexandrine Parrakeet, but its habitat is outside our area.

Two Wood-Peckers are common. The Yellow-Fronted and the gorgeously coloured Golden Backed, the latter less common.

The Crimson-Breasted Barbet or the Coppersmith is found in most parts of our district. It is not easy to miss its vigorous 'Tonk' in summer.

Next in line come the Cuckoos-most vociferous of all birds, much liked or disliked according as the hearer is an Indian or an alien. The Koel needs no introduction. The Hawk Cuckoo or the Brain-Fever Bird of the Anglo-Indians is our other resident cuckoo: Of the migratory species, the Asiatic Cuckoo is easily recognised by its sweet notes. The Pied-crested cuckoo visits us in monsoon and a number of birds are to be seen near the Chandola Lake. The Crow-Pheasant belongs also to the Cuckoo tribe and is a common denizen of our gardens and countryside.

The 'Soft Billed' Purple Honey Sucker or Sunbird and the Indian Hoopoe, are very common and permanent.

Shrikes belong to the group 'Dentirostres'. Three are resident in our locality. Among the Drongos, the King-crow is a familiar bird. Its White-Breasted variety, common at Idar, is very rare around the City. Two Flycatchers may be mentioned. The White-Browed Fantail is common, while its cousin the Paradise Flycatcher is somewhat rare. Babblers are disgustingly familiar by their volubility in our gardens and cultivations. Four species are common : the Bengal, the Large Grey, the Abu White-throated and the Striated Bush Babblers, the last not found in gardens. A single true Thrush visits us in winter. It is the Blue Rock Thrush.

The Red-Vented Bulbul is abundant everywhere, but the White Eared species is very un-common. The brightly coloured Iora, the trim little White Eye and the Golden Oriole with its Black-headed variety are all resident arboreal songsters.

Of the True Warblers the famous Shama is not found in our locality. But its place is taken by the Magpie Robin, the second best songster in the whole of India. It is a resident bird like its cousin the Indian Robin. The Indian Redstart though a winter visitor invariably draws our attention by its curious habit of shaking its tail from side to side.

Several Wren-Warbler are also common in our area. The Tailor Bird is too well-known to merit description. The Ashy-Headed Wren-Warbler and the Indian Wren Warbler also nest in our gardens and grassy compounds. A related family comprises the Wagtails—too many and too varied to be included in this note. However, the resident Large Pied Wagtail and the migratory White Faced Wagtail and the Yellow Wagtail may be referred to.

Among the Thick-Billed tribe, are included the common House Crow and its jet black cousin, the Jungle Crow. Their near relative is the Tree Pie, also a resident bird of our area, though uncommon. Four Starlings occur: the Common Myna, The Bank Myna, The crested Brahminy Myna and the Rosy-Pastor or Jowari Bird, the last suspected to be a migrant.

But the most representative of the tribe are the Finches. The common Weaver Bird is the outstanding example. It with the Black Throated variety abounds in well watered places in our area. Of the Munias, the plain clothed White Throated Munia often breeds in our gardens. The Spotted Munia, a favourite Cage bird, is most numerous around Ahmedabad. The Red Wax Bill that receives its name (*avadavat* and *amandava*) from our City, is naturally found in large flocks around Ahmedabad. It prefers near by grass jungles and damp areas with reeds and is a well-known Cage and Aviary bird throughout the world. The House Sparrow with its Yellow Throated cousin also belongs to this family, though the whole order is named after it (*passer*: a sparrow).

Several Larks occur in our area, the commoner being the Sky Lark, the Singing Bush Lark (Aggan) and the Crested Lark or Chandul.

Pigeons and Doves have an order of their own. In addition to the familiar Blue Rock Pigeon, the soft spoken lovely Green Pigeon is also found sparingly in our district. Of Doves, we have four: The little Brown Dove, the Spotted Dove, the Common Ring Dove and the Ruddy Ring Dove.

Of Game birds, the Imperial Sand Grouse is an uncommon winter visitor around Kharaghoda. The common

Sandgrouse and the Painted Sandgrouse are found in suitable localities, the former abundant.

The Common Peafowl is numerous everywhere while the Jungle Fowl is confined to the Aravalli range.

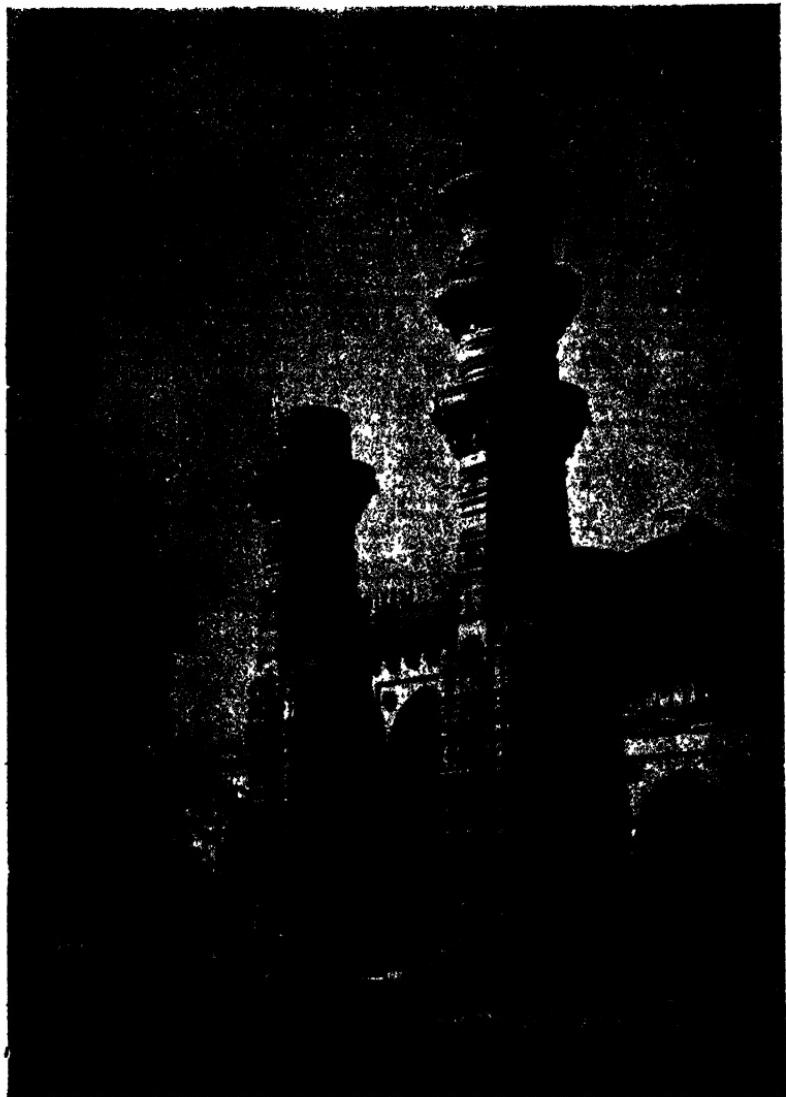
Our commonest Partridge is the Grey Partridge. Its lovely cousin the Painted Partridge is not so common but the Black Partridge is altogether absent south of Palanpur. Quails are numerous, in uncultivated area, brush country and scrub jungle. The generally distributed species is the Rock Bush Quail.

Grallatores or Wading birds are well represented in our district. Lesser Florican is a monsoon visitor. All the true Plovers also visit us in winter. But two Lapwings, the Red Wattled and Yellow Wattled are resident.

Ahmedabad is the home of the Sarus Crane, the biggest of all Indian birds. The Demoiselle Cranes are seen in large flocks in winter in the Bhal area. The Common Crane is also abundant in large tanks in winter, These are Short Billed waders. In addition to the resident Painted Snipe, three migratory snipes visit the district in winter. Among other Long-Billed waders that come in winter, are the Curlew, Whimbrel, Ruff, Stint, Sandpipers, Green-Shanks, Red Shanks, and Stilt—all found on large lakes, particularly in Gobhlaj.

The Bronze winged and the Pheasant-tailed Jacanas are common in tanks with lotus and reed beds. The Purple Coot and the Bald Headed Coot, the Moorhen and the White Breasted Waterhen, all are found in tanks and swamps.

The White Necked Stork or Beef Steak Bird is common in the Sewage Farm area. The White Stork



Shaking Tower

also is a common winter visitor while the Adjutant is seen in places in monsoon.

Of the Herons, we have the Blue Heron, the Purple Heron, the Large Egret, the Smaller Egret, the Little Egret, the Cattle Egret, the Pond Heron, and the Night Heron, very common everywhere, except perhaps the last.

Of the three Ibises, the White and the Black Ibises are fairly common, while the migratory Glossy Ibis is not uncommon. The Pelican Ibis or Painted Stork together with the Spoon-Bill and the Open—Bill is numerous everywhere.

Natatores are birds with more or less webbed feet, adapted for swimming or diving. Among them the Flamingo, though it breeds in the Run of Cutch, is only a winter visitor to our district. It is occasionally found in the Chandola, though its usual haunt is the Nal.

Two species of Geese come to our area in winter : the Grey Lag Goose and the Barred Headed Goose. The Black Backed Goose or Nukta is a resident bird, often found on Chandola though it does not breed there. The beautiful Ruddy Sheldrake or Brahminy Duck is a common winter visitor to the Chandola and the Gobhlaj.

Of the typical Ducks, most are winter visitors to our large tanks and to the Nal. They include the Shoveller, Mallard, Gadwall, Pintail, Widgeon, Common Teal and the Gargeny Teal. The Spotted Billed Duck is the only resident species.

Among the Diving Ducks, we have the Red Crested, the Red Headed, the White Eyed and the Crested Pochards : all migrants.

The Dabchick is a resident bird while the Crested Grebe is only a winter visitor.

The Spotted Pelican, of Swanlike appearance, are found on Chandola and GobhlaJ in winter.

There are three species of Cormorants in our area: the Large, the Lesser, and the Little Cormorant, all permanent and more or less common.

The last of the Avian order of our locality is that most wonderful swimmer and diver, the Indian Darter or Snakebird, seen on every village pond, wherever there is fish and deep water.

REPTILES

The preponderance of Reptilian over the Mammalian forms is well-known. They also include animals that are the most destructive of human life than any other animal order. They are grouped into (1) Crocodiles, (2) Tortoises (3) Lizards, and (4) Snakes.

(1) Only one Species of Crocodile occurs in our district, *crocodus palustris*. Every village pond has its own Croc. Around our City, Kankaria harbours a number of them. Though the Sabarmati R. is not infested, the Vatrak R. in places is literally teeming with them. 5' to 7' is the usual size but specimens upto 12' are not unknown. Man-eaters are very rare.

(2) Our commonest Land Tortoise is the *testudo elegans* one with beautifully marked shell with yellow streaks radiating on a black ground. Several Fresh Water tortoises also occur in our rivers, tanks and occasionally wells.

(3) Nine species of Lizards are found around Ahmedabad, four terrestrial, one arboreal, three subterranean and one at home both on land and in water. Our common House lizard, the *gecko* needs no introduction. It with the three Agamids—the Bloodsucker or Garden lizard,

the small Citana and the Spinytailed Uromastix-form the terrestrial group. The arboreal Chameleon is also found in our suburban area. The Slippery red and brown Skink with its two cousins *lygosoma* and *riopa* live under ground. Last but the most formidable of the whole order is the Monitor lizard or *varanus* common throughout our area.

None of the lizards is poisonous though their bite may prove painful.

(4) Snakes are the most numerous and the most dangerous of all Reptiles. Out of 320 Indian species, about 20 are found around Ahmedabad. Of these 5 are poisonous, rest harmless. Nāga or the Indian Cobra is our commonest poisonous snake, in fact, it is nowhere as numerous as it is around the City. Two varieties are found: the bi-spectacled and the Black, the latter not so abundant. Next in order but the deadliest of all (as no antivenine is to be had for its bite) is the Krait. It lives in houses and takes the biggest toll of human life. Three Vipers also occur. Two—the sturdy Daboia or Russell's Viper, its back marked with black and white rings and the smaller Phoorsa, with a bird's footmark on its head, are pitless. One is a pit-viper: the green Bamboo Snake, a relative of the American Rattlesnake but without rattles. It lives in trees and on bushes in S. Gujarat.

Of the non-poisonous, one is a Worm Snake, 7" long and lives in burrows. Two Earth snakes or Boas are also common: the Two-Headed *Eryx Johnii* ('chaklan') and the *Eryx Conicus* or "Bhamphodi" in Gujarati. Of Constrictors, one is found: the Indian Python. They are seen around Bavla and one was caught in the Camp Maidan. Of Dhamans, we have two species, the Common Rat Snake and

the Banded Dhaman. They are always mistaken for the Cobra. Three Tree snakes are also common: the common Green Whip-snake, The beautiful Gama and the Bronze-Back. The Common Wolf snake, a resident in human dwellings has all the outward appearance of a Krait, which resemblance is often the cause of fatal accidents. Of the two Keel-backs, the Chequered Watersnake is found in tanks and ponds; its other relative the Buffstriped Keelback is less common. The common Kukri snake and the Trinket snake complete the list of our non-poisonous Ophidia.

AMPHIBIA

Of Batrachians, only Frogs and Toads are found in our district. Frogs are amphibious by nature; their skin is smooth and shiny and they have teeth in the upper jaw. Toads are landloving amphibians, with warty and non-shiny skin; they are also toothless. Our commonest Frog is named *Rana Tigrina*, Bull-Frog, wellknown to all by its big size, its harsh croaking and the change of body colour in males after the first showers in monsoon. The smaller species found in our tanks is called *Rana Cyanophlyctis*. Like its big brother, it spends much time in water and when disturbed, it skips over the surface of water before sinking: hence its name 'Water-skipping' Frog. Among Toads, *bufo melanostictus* is the commoner species.

FISHES

There are no sea fishes in our area. All our fresh water fishes belong to the sub-class Teleostoi. Our city receives its fish-supply from various sources: chief among them are the Bokh, the Sabarmati and Vatrak rivers, the Chandola canals and occasionally the Gobhalaj lake.

Ahmedabad also offers opportunities to the angler. After monsoon, when the Sabarmati clears, Mahseer are to be caught close to the Railway Bridge. At Khedbrahma, wonderfully good fishing is to be had in one of the tributaries of the Sabarmati R. where Mahseer, Murrals and *wallago attu* are numerous. Near the twin villages of Barsan-Baroda, 34 miles from Ahmedabad, "some of the finest fishing in India" is available in the Vatrak River.

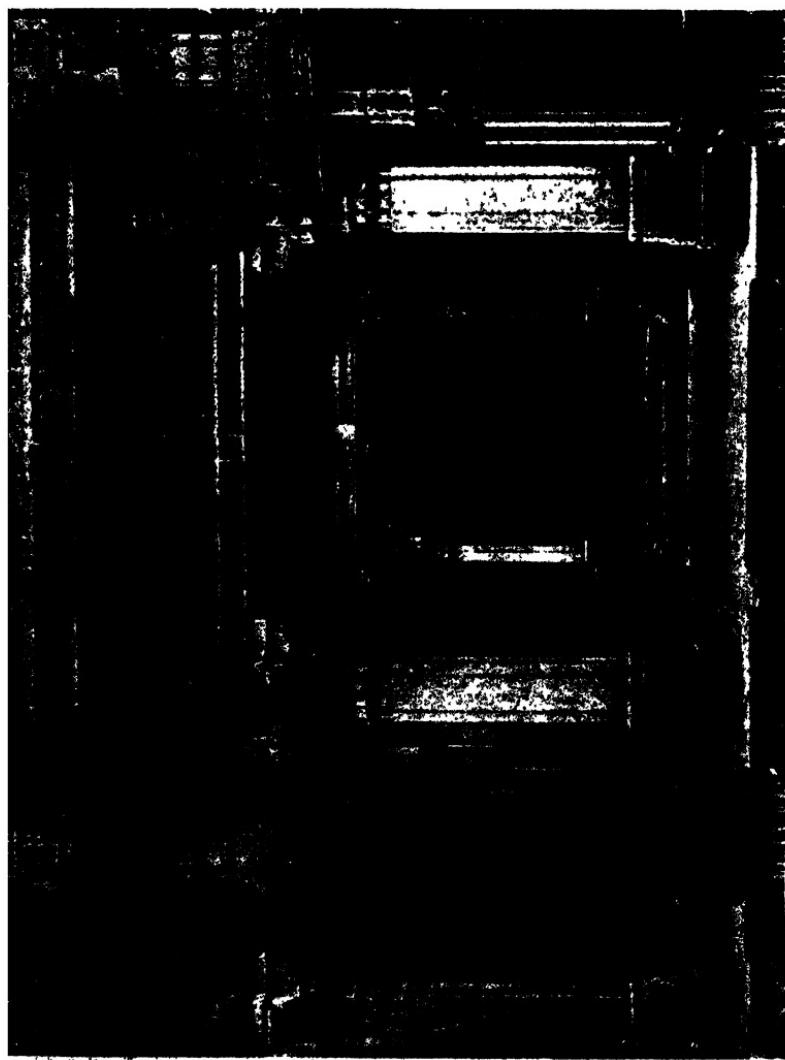
In our district, nine families of Fresh Water fishes are represented by about 30 species but most of them belong to two: the *cyprinidae* or Carps and *siluridae* or Cat fishes.

Of the Carps, the best known is the Mahseer, *barbus tor*; also called Khudchi. Four other varieties of genus *barbus* occur in our tanks and streams. One of them, very common in our area, *B. sarana* (Guj. Darai) is described as the "most sporting Barbel of Gujarat". Other equally famous Carps belong to genus *labeo* or Rohu fish. Five varieties are found, chief of them being the Rohita : *L. rohita*. Another well-known genus is the *cirrhina*. They are handsome carps. One of the species *C. reba* may be seen basking frequently on the surface of still pools with their snouts showing above water.

Cat fishes are not so numerous as the Carps. The best known species is *wallago attu* or 'Padi' in Gujarati.

Murrals (ophiocephalidae) are also equally common in our tanks and rivers.

And here ends this rapid survey of the Floral and Faunal wealth of our District.



Step Well at Adalaj

Rotarian D. M. Asarpota, F.I.A.A. & S.

ARCHITECTURE OF AHMEDABAD

ARCHITECTURE reflects the manners, customs and degree of civilization in the story of man's existence. It depicts the state of society in which it was erected. Exactly as each nation spoke and wrote in a language of its own, so each built in a style that bore the national impress of its originators.

Ahmedabad,—which should really be spelt as 'Ahmadabad'—owes its foundation to King Ahmad Shah in 1411 A. D. The fifteenth century for western India was impregnate with energy. In this period when the Muslims conquered Gujarat in the close of the thirteenth century, it was the flourishing Hindu Kingdom with its capital at Patan Anhilwad, which continued to be their head-quarters for full one century. The Hindu kingdom which was overrun and whose last dynasty was that of Vaghelas was in a state of high civilization. The Brahmanical and Jain architectural works of that period played a very great part in the evolution of the Mohammedan edifices of the 14th and 15th centuries in Ahmedabad and other parts of Gujarat. The highly developed indigenous style and the wholly different ideas and traditions of the conquering Muslims got well fused and led to the development of one of the most pleasing varieties of Indo-Saracenic architecture.

After the fall of the Taghlakh Dynasty, caused by the invasion of India by Timur-lang, Muzaffar Khan, who was the Governor of Gujarat (1391), assumed independence in 1396. It is chronicled that Sultan Muzaffar whose original name is Zafar Khan, came from a converted Raj-

put Prince, of 'Tak' or 'Tank' clan of Thaneswar.

When Prince Ahmad came on the throne, he decided to build a new capital and selected Asawal on the banks of Sabarmati. With his characteristic activity he set about adorning it with splendid edifices to surpass the grandeur of Anhilwad which he had to leave for ever. As he was very busy throughout the period of his rule, in subjugating the rebellious spirit of his subjects and neighbours, the edifices erected by him in Ahmedabad are only reproductions of the magnificent monuments of the old capital. It was, however, left to his able grand-son Sultan Mahmud Begada to complete the great task to make Ahmedabad in the words of Ferishta 'the most handsome city in Hindustan, and perhaps in the whole world.' Perhaps, it was the handsome city in those days which does not appear now.

Gujarat, at that time, was full of Hindu master masons, who when employed by their Muslim rulers, combined the indigenous system of construction and decoration with the ideals, traditions and largeness of conception of the Mohammedan conquerors. James Ferguson, writing about the Indian Saracenic Architecture of Gujarat, observes : 'In Ahmedabad itself, the Hindu influence continued to be felt throughout. Even the mosques are Hindu, or rather Jain, in every detail; only here and there an arch is inserted, not because it was wanted constructively, but because it was a symbol of faith, while in their tombs and palaces even this is generally wanting. The truth of the matter is that the Hindu kingdom of Gujarat had been in a high state of civilization before its subjugation by the Mohammedans, and the remains of their temples at Siddhpur, Patan, Modhera and elsewhere testify to the

building capacity of the race. The Chalukyas, however, conquered their conquerors, and forced them to adopt forms and ornaments which were superior to any the invader knew or could have introduced. The result is the style which combines all the elegance and finish of Jain or Chalukyan art with a certain largeness of conception which is characteristic of the people who at this time were subjecting all India to their sway. In the same strain writes Hope, 'As to style, it was singular fortune of the Mohammedans to find themselves among the people their equals in conception, their superior in execution and whose tastes had been refined by centuries of cultivation. While moulding them, they (Muslims) were moulded by them, and, though insisting on the bold features of their own minaret and pointed arch, they were fain to borrow the pillared hall, the delicate traceries and the rich ornament of their despised and prostrate foe.'

The architecture of Ahmedabad does assume a distinct local form, which is the varied offspring of the fusion. It is peculiarly elegant and pleasing in character. It is singularly chaste and eloquent of the local Hindu or Jain form which it replaces. In the words of Havell, it is 'Saracenic' only in the sense that it is Indo-Aryan architecture adopted to the rituals of Islam.

The period of five hundred and thirty years since the founding of Ahmedabad, the various vicissitudes it has passed through, and its present industrial growth have all contributed to hide its gems, and to mar the beauty and grandeur of its jewels. To a visitor, the present Ahmedabad would only convey an impression of a city of smokey chimneys and of wild growth, a growth which requires to be pruned to bring to light its vast treasures

of art. Let us hope that our city-fathers would awake to this great task and take steps, so that, to this great city of ours, its magnificent beauty is again restored.

The monumental edifices erected by Sultan Ahmad Shah and his descendants are all in stone and some of them have marble pillars. There are no stone quarries within a hundred miles. It is to the credit of the Hindu rulers of Gujarat and their Mohammedan successors to build these noble edifices in stone and marble which had to be brought from hundreds of miles, in that age of bullock-carts and of kutcha roads without bridges. The architectural monuments of the city of Ahmedabad and its suburbs are the work of one and a half century. The golden age of Ahmedabad architecture is the long and glorious reign of Sultan Mahmud Begada : 1458-1511. Decadence set in during the reigns of his son Muzaffar II and his grandson Sultan Bahadur Shah.

The well-known architectural monuments built during the reign of King Ahmad Shah are the following :

The Bhadra Citadel, a small square castle with several gates, two of which are only in existence at present. Behind its lofty east gate are to be seen the two imposing massive Bhadra Towers. There is no trace of royal palaces or any other buildings except the royal mosque.

The mosque is Ahmad Shah's private Masjid, now out of use. It faces the present Gujarat Club. It was built in 1414 A. D., mostly out of materials brought from the pulled down temples. The pillars still bear reliefs depicting Hindu mythological figures, and on one of them is written an inscription in old Gujarati, dated 1252. The plan is based on the square and octagon of the Hindu

temples. The interior is entirely Hindu, full of pillars. There is not a single arch; but its exterior has the Saracenic treatment, vigorous and austere.

The most important monument of his reign is the Jami Masjid, the most extensive and splendid edifice in the whole of Gujarat. Situated a short distance away from the Triple Gateway or Teen Darwaza, with very busy bazars on both sides, it is now surrounded and hemmed in all around by shops and houses, 'low and mean for such surroundings.' It is thus screened off from full view. Fergusson calls it as one of the most beautiful mosques in the East. Sir John Marshall describes it as one of the most imposing structures of its class in the world.

The Jumma Masjid stands, as usual, at one end of a very extensive courtyard. Its dimensions, overall externally, are 382 feet by 258 feet, the mosque itself being 210 feet by 95 feet covering an area of 20,000 square feet. The courtyard is surrounded on the remaining three sides by a covered corridor. The plan of Masjid is again based on Hindu octagons or mandaps grouped together, a fine adaptation of the design of contemporary Hindu temples in Rajputana. There are fifteen domes, arranged symmetrically in three rows each containing five domes, the central three domes being somewhat larger and considerably higher than the others. Each dome is supported on eight columns, and built up to usual Hindu design in horizontal courses by gradually changing the octagonal base into a circle. These domes are linked up together by a flat roof and by a number of smaller domes of similar construction supported on four columns each. There are 260 graceful pillars, entirely of Hindu



Tracery Window in Sidi Sayyad Mosque

style. Its facade is admirably composed, 'so diversified and well-proportioned in its parts that its vastness only serves to enhance the beauty and impressiveness of the whole.' This is achieved by breaking up the horizontal lines of the monotonous screen facades of Northern India. The facade of the Jumma Masjid is divided into five compartments. The height of each successive compartment from the ends towards the centre of the facade is increased, so that the whole design has a central focal point and the pyramidal lines. The central focal point consists of one great central 'Saracenic' arch, flanked by two beautiful minarets. On each side of this lofty central piece is placed one smaller arch of the same type, and to complete the composition the end compartments have each a row of five Hindu arches carried on Hindu pillars, with brackets and Hindu chhaja. The keystones of the main arches have as usual the symbolism of the pipal leaf wrought into them. The whole composition is expressive of unity and blends harmoniously the minarets and arched openings with the horizontal Hindu style of construction.

The beauty of the Jumma Masjid and of most of the Gujarat edifices, lies in the interior structure and decoration, into which there is no trace of the Saracenic elements. Says Havell, 'Even the most sacred symbol of Islam, the Mihrab, is so completely transformed that except for a small pointed arch, which is as much Hindu as Saracenic, it is only a replica of the door of a Hindu shrine.'

The pyramidal lines of the exterior are reproduced in the longitudinal section of the Masjid. The great central dome in front of the main entrance is raised up above the adjacent ones, while the next domes

on the adjacent aisles are raised up above those over the end compartments. The tall pillars carrying the central dome are formed by placing a pillar over a pillar, twice in this case, to get the required height, and along with two dwarf pillars on the lower terrace roof, which are also roofed over, form side clerestorys for admitting diffused light. They also serve as galleries for the royal ladies, with perforated screens and solid richly ornamented balustrade. 'It may be remarked' writes Dr. Burgess, 'that it is only in the Gujarat Mosques of the fourteenth and first half of the fifteenth centuries that these royal or Zenana galleries appear.' It is this expedient of pillar over pillar so marvellously adopted in the design throughout its longitudinal section, that dignity, repose and serenity are manifested to all who stand under its roof. The arrangement of admitting light is highly praised by all critics. Fergusson writing about this, observes: 'It will be perceived that the necessary amount of light is introduced, as in the drum of a Byzantine dome, but in a more artistic manner. The sun's rays can never fall on the floor, or even so low as the head of any one standing there. The light is reflected from the external roof into the dome and perfect ventilation is obtained, with the most pleasing effect of illumination without glare.' This method of admitting light follows entirely what was done centuries previously for the lighting of splendid chapter-house at Ajanta, and is thus entirely Hindu.

A few words may be said about the beautiful and stately minarets of this Masjid, the upper part of which were unfortunately lost by an earthquake in 1819. The building has thus been shorn of its prominent architectural

features. Inspite of this, the Masjid looks quite beautiful. They consisted of four storeys. These were very elegantly proportioned and richly decorated in the style of the Rajput Tower of Victory at Chitor (A. D. 1440). In common with some others at Ahmedabad, they possessed the peculiarity that when one was shaken it communicated a vibratory motion to the other, though not the slightest tremor or agitation was perceptible in the intervening roof. This phenomenon of the shaking minarets has been abundantly verified by Captain Robert Grindley in 1826, and by Henry Cousens in 1905 on the minarets of Sidi Bashir's Masjid in this city.

Fergusson compares the Jumma Masjid with the contemporary Temple at Ranpur, one hundred sixty miles off Ahmedabad, erected by Maharana Kumbha, and observes, 'My own feeling is in favour of the poetry of the temple, but there is a sobriety about the plan of the mosque which, after all, may be in better taste.' In his opinion both plans, are infinitely superior to the monotony of the Southern Halls of 1000 pillars, which opinion, perhaps, can not be shared by a large number of competent critics.

The Jumma Masjid is constructed in fine sandstone but the pavement is in white marble of very coarse grain.

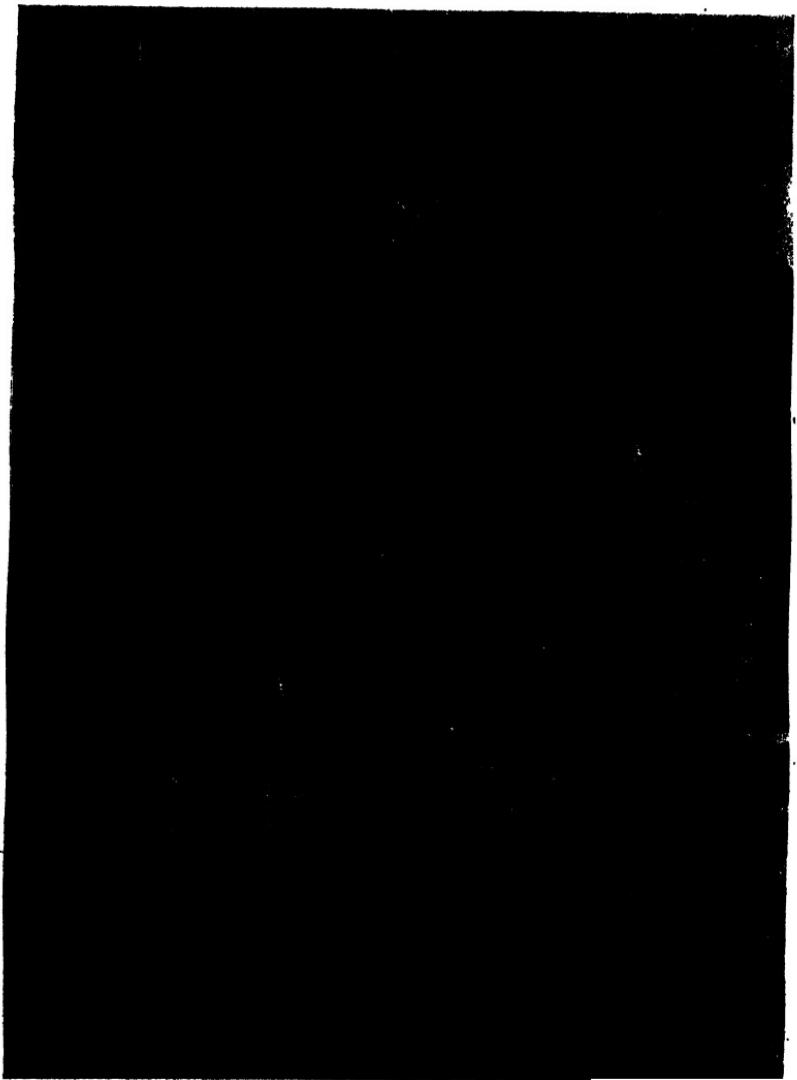
There are two other edifices of importance. To the east of Jumma Masjid is an enclosure containing the mausoleum of the King Ahmad Shah, called the 'Badshah-ka-Hazira', and opposite to it but across the Manek Chowk is another enclosure which contains the tombs of the queens or the 'Rani-ka-Hazira. 'The King's Rauza is a massive domed building with a central hall, deep pillared verandahs and four square rooms at the corners. The

tombs are of white marble beautifully carved. In the Rani-ka-Hazira rest the remains of the Ahmad Shahi queens on a stone pavement raised ten feet above the ground. The principal tomb is that of Bibi Mughali, wife of Sultan Muhammad Shah II, daughter of Jam Nizam-ud-din of Thatta, Sind, and the mother of the great Sultan Mahmud Begada. Her tomb is in white marble with elaborate carving and with low relief Persian inscriptions. Near this tomb is another tomb in black marble, once inlaid with mother-o-pearl, and contains the remains of Mirki Bibi, sister of the queen. Both these tombs are beautiful works of art exquisitely finished to the minutest detail and are placed in the queen's mausoleum without any dome or canopy above them.

The Triple Gateway or what is called Teen Darwaza is situated at some distance to the East of the Bhadra Towers, and remains the sole memorial of the original great courtyard—the Maidan Shahi—which formed the grand approach to the Bhadra Citadel. The great courtyard has entirely disappeared, so also the vast sheet of water that surrounded the Citadel. In the great courtyard were rows of palm trees and citron trees. Here the great feudatories and foreign ambassadors assembled with their retinues before being admitted to Royal presence. The Teen Darwaza even at present is the most imposing and magnificent portal. Its archways are well proportioned; the supporting piers are robbed of their massiveness by highly ornate buttresses. Thus robustness gives place to delicacy. The upper part of the gateway above the crown of the ornate buttresses, is made straight for its whole length, with only five small balcony windows on each side, and is thus made expressive of its purpose.

The reign of some sixteen years of two succeeding Sultans, Muhammad II and Qutb-ud-din Ahmad Shah II, saw the birth of Sarkhej monuments, and the construction of Hauz-i-Qutb or Kankaria Tank, and of many fine edifices such as Malik Shaban's Rauza at Rakhyal, of saint Qutb-ul-Alam's great mausoleum at Vatwa, of Sayyad Usman's Masjid at Usmanpur and of the Rauza of Darya Khan.

Sarkhej, the place of residence of the saintly Sheikh Ahmad Khatu, the spiritual advisor of Sultan Ahmad, is about six miles south-west of Ahmedabad. It was Sheikh Ahmad who suggested to the Sultan to found his new Capital at Asawal on the bank of Sabarmati. He died at the venerable age of one hundred and eight years, four years after the death of Sultan Ahmad. To commemorate the fame of the friend, advisor and spiritual preceptor of his father,—a saint of eminent virtues and remarkable for piety, a saint who holds a high place in India among the saints of Islam,—the Sultan Muhammad II erected the splendid mausoleum at the place where the Sheikh had resided for well-nigh half a century. This is the nucleus of the most important group of edifices known as Sarkhej monuments. The earlier group consists of the mausoleum of the saint, a small pavilion to its east, and the Sarkhej mosque. The later group built by the great Sultan Mahmud Begada, comprises of Sultan's tomb, the tomb for queens, and further on towards the south side of the great Sarkhej tank the palaces and harem built by Mahmud Begada. All these edifices are constructed without a single arch; all the pillars are of Hindu style, of usual simple form—a tall square base with the shaft, square but without any ornament



Hathising's Temple

except vertical sunk corners, and crowned with the usual bracket capitals of the Hindus,—and all the domes are constructed on the horizontal principle as in domes covering Hindu mandaps.

The mausoleum of the Sarkhej saint is the largest of its kind, not only in Ahmedabad, but in Gujarat, and measures 102 feet square. It is surrounded by a large central dome which supports as the finial a brass pipal leaf as in other royal buildings of the Ahmad Shahi rulers. The spaces between pillars of exterior walls are filled with trellised windows of perforated stone work in every variety of design, while the door openings are formed between the pillars with headways cut to usual Hindu arch shape. The central dome is placed on 12 pillars instead of the usual eight pillars of the octagon, probably to obtain a large dome. The substructure does not, however, fit in with the superstructure. The Rauza of the Sarkhej saint is a great monument indeed. It stands on an elevated platform which is approached from its east side, by an exquisite little pavilion, already mentioned, raised on sixteen pillars of simple style, with horizontal beams and sloping chhaja carrying the moulded and ornamented parapet. The pavilion is roofed with the small domes, which although insignificant in themselves form externally a topheavy roof for a small detached pavilion. Internally however, a very pleasing effect is produced.

The Sarkhej mosque situated to the south of Rauza, is of the same period. It was completed in 1451, and is 141 feet by 65 feet inside. In plan, it follows the arrangement of the Jumma Masjid, Ahmedabad, with five octagonal compartments, two rows deep. There are thus two

ranges of five domes in line, all of uniform height, and with columnar treatment of facade and without minarets. The mosque is thus remarkable for its elegant simplicity. In such a beautiful House of Prayer, on the bank of the Sarkhej tank, there pervades an atmosphere of reverent repose which still makes Sarkhej a very charming place of retreat.

Sarkhej thus became a favourite resort of the great Sultan Mahmud Begada, who besides erecting his palace and tombs, excavated the great tank. Later on along with other works of Mahmud Begada will be described the group of monuments erected by him. Sarkhej stands prominently in the history of the Gujarat monuments and is worth paying a visit, as no description can impart a real glimpse of the noble group.

Sultan Qutb-ud-din, the eldest grandson of King Ahmad, not only completed the Rauza and mosque at Sarkhej, but constructed in Ahmedabad—a mile to the south-east of Raipur gate—the great tank called the Hauzi-Qutb, and in its centre a pleasure-house or a small palace known as Ghattamandal with Nagina Bagh or Vadi surrounding it. This reservoir, although not the largest of its kind in India, is a regular polygon of 34 sides, encloses an area of 76 acres and has a circumference of nearly a mile and a quarter. It is entirely surrounded by many tiers of cut-stone steps. There are six sloping approaches to the water flanked by square cupolas, each raised on twelve pillars. Across the sloping approaches were flung roofed galleries; so also at intervals were introduced, along the outer wall, pillared loggias. The outer wall had projecting pillars attached to its inner face with horizontal lintels and usual horizontal decorated

string courses, out of which were thrown out open octagonal galleries for people to sit and view the tank and the sports going on. In the centre of the tank is an island connected with the bank by a viaduct which was once supported on forty eight narrow arches. On this island is placed the garden known as Bagh-i-Nagina, the jewel set like a precious stone on a ring with the small pleasure-house in its midst. The present garden and approach is now protected by means of small parapet very ugly and out of tune. The old fine well is still existing. The present building does not appear in any way to belong to the Ahmedabad architecture of the Sultanat style. The Kankaria tank gets the rain water supplied through the supply-sl uices on its east side. The sl uices are, indeed, a work of art. They are skillfully designed and decorated. At each end of the sl uice is a buttress which resembles the bases of the minarets of the Ahmedabad mosques. The screen between the buttresses or jambs, is over six feet thick, is carefully carved and pierced by three large circular openings, each six feet in diameter with ornamental surrounds. That the supply-sl uices, a piece of civil engineering, should receive such an attention at the hands of the then Ahmedabad architects, so as to transform a work of pure utility into a superb work of art, speaks volumes about the artistic culture of the society and its rulers, under whose patronage every object of use was made ornamental.

With the lapse of time, and the disintegration of the ruling power, the Nagina Bagh and the summer palace were neglected, while the approach bridge of forty eight arches as well as the outer pilastered wall, some loggias and cupolas disappeared. In 1872, the Collector of

Ahmedabad Mr. Borrodaile undertook repairs and restoration. It is very desirable that the structure surrounding the tank, its entrance gateway and the upper part of the outer wall, should be restored to their original form, by our Municipal Corporation to whose care the Kankaria tank and Nagina Bagh are entrusted. It is very creditable of the present Municipal Corporation to put in orderly condition the surroundings of the tank, to construct an asphalted road all round and to clear away some of the high banks of the tank. A well-laid garden on the remaining banks would naturally add to the beauty of the spot.

The Rauza of Malik Shaban at Rakhyal (a suburb of Ahmedabad) is another beautiful edifice erected in 1452, in which columnar treatment of facade has been employed. The Rauza is in good state of preservation and is enclosed by a wall which had a little square kiosk at each corner, now in ruins. The Malik also built at Rakhyal a fine garden with walls and trees, known as Bagh-i-Shaban, which contained some beautiful buildings, a tank with stone steps and a step-well. All the traces of the garden have now disappeared.

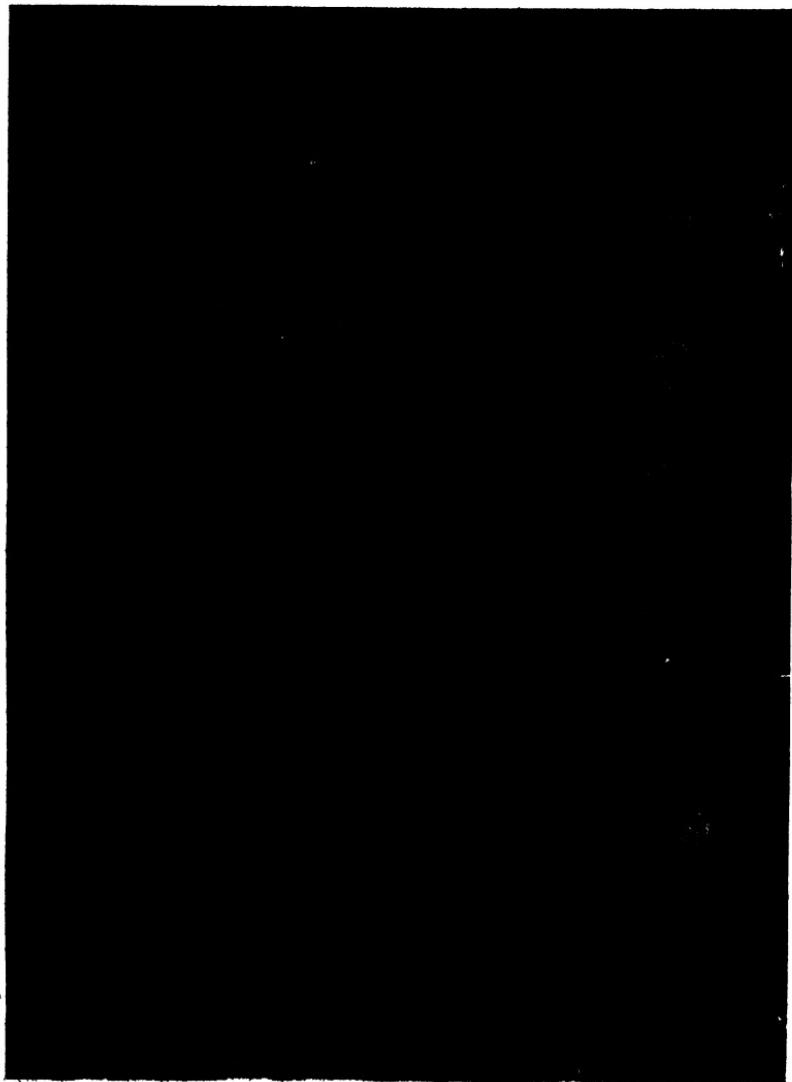
The Vatwa mausoleum, the Sayyad Usman Masjid and the Dariya Khan's Rauza, are all built just after the close of Sultan Qutb-ud-din's reign.

The Vatwa mausoleum erected as shrine of Saint Qutb-ul-Alam, by Sultan Mahmud Begada is entirely of different design and marks a definite change over the arch treatment, a change from the indigenous style to foreign-arcuate style. In this vast building, the arch is used consistently throughout. It is not a screen of Hindu arches hiding a columnar interior or facade. The arch takes the place of the beam, and the building conse-

quently appears of considerable size. The aisles are arched and vaulted throughout, and the dome is raised high in the air by a second tier of arches. But the whole of the outer row of piers with their arches have fallen down and the entire mausoleum is in a state of decay.

The Rauza and Masjid of his chosen successor Sayyad Usman, at Usmanpur, a suburb of Ahmedabad, on the road to Sabarmati, is still in a fair state of preservation. Built by Sultan Mahmud Begada to the Sayyad's memory in 1459, the Masjid is one of the first in Ahmedabad in which the minarets are transferred from the middle portion of the facade to its extremities. As in Sarkhej monuments the design and style are entirely Hindu. The columnar treatment of facade, without any arch, flanked by two massive but highly moulded and decorated minarets, imparts to the beautiful structure, a serene dignity and halo that surrounds the House of God.

The early years of the reign of Sultan Mahmud Begada can be called a transition period for architectural edifices of Ahmedabad. Darya Khan, a companion of Sultan Mahmud's youth, built a mausoleum for himself, at the northern extremity of Daryapur, a mile to the north of Delhi Gate. He is buried there. It is a massive brick monument, an imposing square structure with a lofty central dome and broad domed verandahs on all sides, with five arched entrances on each face. Its walls are ten feet thick and are thus in keeping with the solid structure in which pervades gloomy darkness. There is not a single column in the building. The arch is the basic structural element employed. This monument is another stray example, which breaks off from indigenous Indo-Saracenic style of Ahmedabad architecture, whose



Balcony of Hathising's Temple

second phase of development lies towards pure Hindu columnar design, which design has imparted to Ahmedabad monuments sublime and cheerful elegance. It is evident that an architect from Northern India had arrived at the scene, and introduced the arcuate style of the faith.

The advent of the long and glorious rule of Sultan Mahmud Begada brings us to the golden age of the Indo-Muslim architecture of Ahmedabad. In this period of over half a century, not only religious buildings were erected, but utility structures for the use and protection of the people were also constructed. As the kingdom was expanded to the boundary of Malwa on the East and to the shores of Kathiawar on the West, to Marwar and Mewar on the North and to Konkan on the South, a vast field opened up for founding new cities and for building grand and monumental works.

Sultan Mahmud Begada surrounded, in 1486, his capital, the city of Ahmedabad, with fortifications, after his return from the conquest of Champaner and Pavagadh. These are the famous city walls the demolition of which is a burning question of the day. They have remained in fair state of preservation for over 450 years. Nearly six miles in extent, they had originally 12 gates, 189 bastions and over six thousand battlements. The gateways are imposing structures. The fortifications were surrounded by a wide moat which is now entirely filled. The Sultan also constructed extensive fortifications to other two important cities, the city of Mustafabad, now known as Junagadh, and the city of Champaner.

Amongst the innumerable buildings erected by the great Sultan and his nobles the following stand out as the foremost monuments. The group of the palacial

buildings and the Royal mausolea at Sarkhej which complete the noble ensemble of Sarkhej monuments, arrest our attention as foremost of his works at Ahmedabad. He excavated a beautiful tank covering an area of 17 acres, and surrounded it with tiers of steps and loggias. The sluices which bring rain water for the tank, are as good a work of art as at Kankaria.

Of his harem and palaces, some imposing remains are now left, to bear eloquent evidence to their utility as worthy places for the great Sultan's residence. The remains show vide columnar verandahs and projecting balconies which overlook the tank, the approach to which is by means of tiers of steps and platforms. the Sabarmati once flowed past the Sarkhej buildings. These buildings, designed as they are, must have served their purpose exceeding well.

The Royal mausolea are columnar structures, fully in keeping with the great mosque and Rauza of the Sarkhej saint, already fully described.

A number of Masjids in Ahmedabad built by the Sultan and his nobles are worthy relics of the glorious period. Rani Rupamati's Mosque on the Mirzapur Road known as the 'Queen's Mosqué', Bibi Achut Kuki's Masjid near Dudheswar, Muhamfiz Khan's Masjid near Delhi Gate, the Sarangpur Masjid of Malik Sarang Sultani, and the gem of all, the Rani Sipri's Mosque and Rauza near the Astodia Gate, are exquisite works of art, and richly deserve the praise lavished on them.

In Rani Rupamati's Mosque, the architect has been fairly successful to combine the Mohammedan arch with Hindu lintel. The facade is a fine balanced design. As in other mosques of the mixed style, the central

focal point is strongly emphasized. The central arched entrance, flanked with richly moulded and decorated minarets, is made lofty and imposing. It screens from view the interior clerestory which admits subdued light, a unique and pleasing feature of the design of the Ahmedabad mosques. Although the upper parts of the minarets were destroyed by the great earthquake of 1819, the composition does not appear in any way marred. The very pleasing effect is also due to the solid mass of the side extensions, the horizontal decorative bands of which give the building sublime repose and imposing dignity. In details this mosque is exuberantly rich. The bases of the minarets, the balcony windows with ornate posts and pyramidal heads, the perforated stone lattices about which a lot can be said, all these are masterly works of art, as astonishingly beautiful as the sculpture of the Hindu temples, from which they have evidently been derived.

The tomb of the Rani is in an adjacent courtyard. It is a great contrast to the mosque. It is in classical Hindu style, both in general conception and in detail. It is, indeed, a masterly production in far better taste, than the Rauza at Sarkhej, or the Badshah-ka-Hazira in Manek Chowk. The sanctuary is square in plan with twelve Hindu pillars of simple design, the entire construction being Hindu in all its elements. The roof plan is the pancha-ratna type of Hindu temple; the central main dome surrounded by four small domes or kiosks at the corner of the square dominates the whole composition. Viewed as a whole, the building conveys a delightful sense of sobriety and serenity, worthy to house the remains of the Royal Lady till the day of resurrection.

The Masjid built in Hajipur, near Dudheshwar to the north of Ahmedabad on the banks of Sabarmati by Malik Baha-ud-din, in 1472, is another beautiful mosque on the lines of the Queen's and exhibits clearly the most perfect development achieved by Ahmedabad architects, of blending the Hindu structural and decorative elements with Saracenic, that 'only a practised eye can detect what belongs to one style and what belongs to the other.' Its tracery work shows exquisite perfection, its finish is second to none, and the sandstone of which it is built has its own richness of texture and colour that enhances its beautiful form and places it on the pedestal of fine examples of architecture.

The Muhafiz Khan's is a pretty little family chapel, erected in 1492, near Delhi Gate. Its facade has three arched openings, all of one height, flanked by two over-moulded and highly ornate minarets, which mar an otherwise very chaste and sombre composition. The minarets are fully standing. From their form and decoration, the form of minarets of the Jumma Masjid and the Queen's Mosque can be vividly imagined.

The Mosque and Tomb of Rani Sipri, (or Sabrai) are among the most elegant of the Ahmedabad buildings of the grand and glorious period. They were built by Queen Sabrai, one of the wives of Sultan Mahmud Begada after his death, to lament the loss of her son, Prince Abu Baker Khan, the heir apparent. The Mosque is of small size measuring only 48 feet by 19½ feet but it is interesting architecturally. It is built in pure Hindu traditions of design and construction, being entirely trabeate. Fergusson calls it the gem of Ahmedabad. The facade is well composed while the flanking minarets

complete the composition. They are very graceful and fit in very well. Their upper part is very slender. The minarets serve no purpose. This is their great defect. It makes them as mere pieces of pure ornament. Sir John Marshall, a competent critic writes: 'East or west, it would be difficult to single out a building in which the parts are more harmoniously blended, or in which balance, symmetry and decorative rhythm combine to produce a more perfect effect. The mosque is a small one, but this very smallness is an asset in its favour, since the delicate traceries and jewel-like carvings of Gujarat, suggestive as they are of an almost feminine grace, show to less advantage in bigger and more virile structures.'

Ahmedabad, in the words of Professor Commissariat, might well be proud of a monument which has elicited such an unstinted praise, couched in language that could hardly be more felicitous. It is, however, a great pity that the present hideous surroundings fail to set out its exquisite beauty. The road has encroached upon its open space and courtyard, and has thus mutilated the monument whose full beauty has vanished for ever.

Mosques, tombs and palaces are by no means the only architectural monuments of the 15th and 16th centuries in Ahmedabad. The Ahmad Shahi Sultans not only erected the religious and military works but also constructed magnificent works of utility, e. g. step-wells, bathing ghats and irrigation channels. Two monumental step-wells were erected in Sultan Mahmud Begada's reign. Their conception and design are evidently borrowed from the preceding Hindu period of Gujarat and Rajputana where 'Wavrees' or step-wells were profusely constructed. The Dada Hari's step-well is in the suburb of Asarva,



Swaminarayan Temple

about a mile to the north-east of Ahmedabad. It was constructed in 1499 by Sri Bai Hari Sultani, the Lady Superintendent of the great Sultan's zenana. To the west of the step-well are a mosque and Rauza that still bear her name. It is designed strictly on the lines of the older Hindu steps-wells, such as Mata Bhavani's built in the latter part of the 11th century, and the 'Rani Wav' at Anhilwad constructed about 1032. At the entrance of the step-well stands a small domed pavilion, and a series of very broad flights of steps, connected with a series of pillared platforms or landings, form the approach to the deep shaft of the well. The shaft, which is 24 feet square, has two spiral staircases on its sides for direct access to four tiers of pillared galleries which support the sides of the shaft, and which provide cool resting places for the people using this well. The water comes in so forcibly from the adjoining under-ground streams, that it usually rises high up in the third gallery. The fourth gallery always remains submerged. On the pillared platforms or landings between the flights are also galleries, whose tiers are multiplied as the depth increases. These are highly ornamented as is usual with Hindu or Jain craftsmen. The pillared galleries also serve further as supports to counteract the inward thrust on the long and deep side walls.

The step-well at Adalaj, about twelve miles north of Ahmedabad is even more beautiful. It was constructed by Queen Rudadevi, the Rani of King Virsinh, in the same year that Dada Hari's Wav was built. The architect's name is inscribed on the tablet-Marana, son of Bhima, Srimali by caste. No pen picture can adequately describe the architectural beauty of this 'Wav' nor can it give

any idea of the fine design of its pillared platforms and galleries, which are truly 'classic' in feeling as the Renaissance edifices of Europe. What loving labour and constructional skill was lavished on these wells, can only be realised by a personal inspection. 'The advent of industry, also the poverty and ignorance, of masses have made a large number of our people quite cold to their artistic inheritances, but what a treasure-house of fine culture these step-wells were to the people who frequented them for their daily supplies ?

In the period following the death of Sultan Mahmud Begada, there appears to be very little building activity in Ahmedabad. The capital was already transferred to Champaner. The description of finer Champaner edifices is beyond the scope of this article. During the decadence that followed, the only building worth recording is the Rauza of Shah Alam built in 1532, nearly fifty years after the death of the well-known Bukhari saint. It claimed to be the most beautiful of Ahmedabad monuments. It retains the character of the local style, a pillared monument with trellised exterior, a central large dome with small domes over the corridor. In the enclosure, is also another Rauza on the same plan. The domes of these Rauzas were at one time richly decorated inside with inlaid mother-of-pearls. The Masjid, at Shah Alam, is of much later date and built in the Agra and Delhi style throughout. The two minarets at the end of the Masjid are of the usual Ahmedabad type. These edifices are enclosed in a bastioned wall, and being associated with Bukhari Sayyads, have obtained sanctity and reverence.

Another monument of note, is the Sidi Sayyad Masjid, a small but pretty building of 1572, near Lal Darwaza

and in the north-east corner of the Bhadra Citadel, on the Mirzapur Road. It is again in the arcuate style, wherein the use of arch has been boldly employed by Ahmedabad builders. The *pipal* leaf is carefully carved on the keystones of the arches. The minarets are placed at the corners and are very robust, finished neatly and elegantly with floriated bands. Constructed after the annexation of Gujarat by Akbar, the design is very vigorous and austere, with its arches well proportioned and supported on neat simple strong pillars. Says Sir John Marshall : 'In form this mosque is unusually plain and chaste. Anything simple and unassuming, or more unlike the richly adorned mosque of Rani Sipri, could hardly be imagined.' Such simplicity is rare in Ahmedabad or even in Gujarat.

The most attractive feature of Sidi Sayyad mosque is its glorious stone traceries of the arched windows, 'which, besides ventilating the interior give it almost as much warmth of colour as the stained-glass windows of the medieval cathedrals of Europe.' Of the five openings of the west wall, the central one is filled up, and the adjoining two contain the famous screens, superbly designed and adorned with free plant and floral pattern in which the vegetable forms are appropriately conventionalised. Fergusson, while describing the evolution of this class of work in Ahmedabad, observes that they are unrivalled. 'At Agra and Delhi' writes Fergusson, 'there are some nearly as fine but none so exquisitely balanced as these....It is probably more like a work of nature than any other architectural detail that has been designed even by the best architects of Greece or of the Middle Ages.'

Havell observes : 'In this class of window-tracery India stands alone; it is a purely Indian development of the sculptor's craft having its origin in the Hindu temple tradition. The best Ahmedabad tracery shows no Persian influence. It is stronger' in design and better suited for its purpose than most of the work of the Mughal period.'

The other screens of this Masjid are of the usual type in which small panels are filled with varying foliage and geometric patterns. Beautiful as these patterns are, they are merely a mixed collection of designs and show only the art and craft of mason.

The exquisite design of our Ahmedabad Rotary Club's flag is taken from one of the two floral screens of the Sidi Sayyad Masjid.

The architectural works of the Ahmad Shahi Sultanat have been fully described. In plan, in elevation and in construction, they are masterly designed; and the layout of their surroundings—the gardens and the open spaces—were also works worthy of a town-planner.

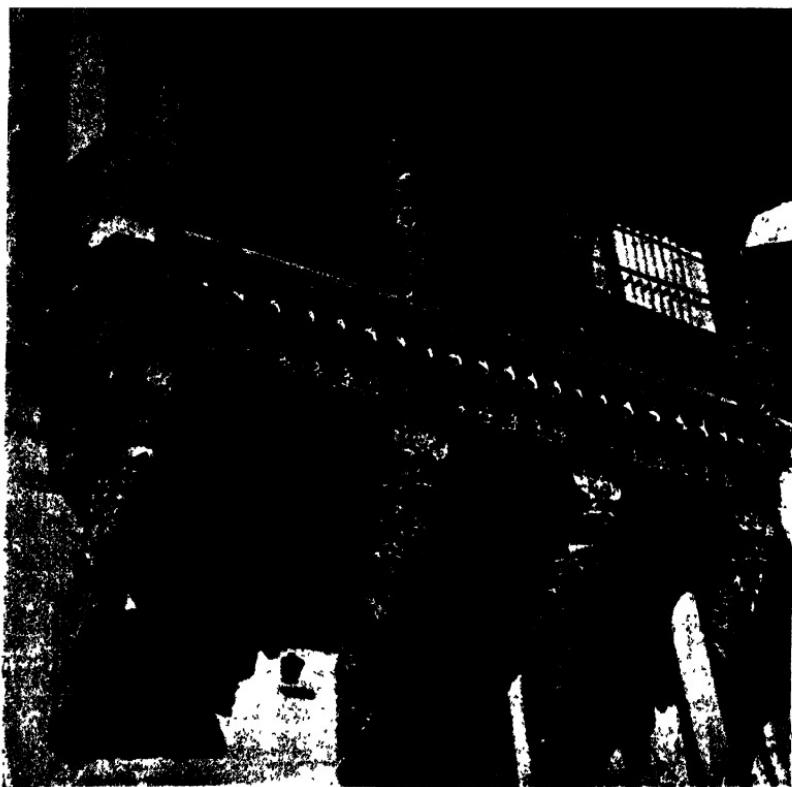
Of the secular architecture of Ahmedabad of that period, there is very little left, but in the houses of the people which have grown up on their ruins, and which represent to a large extent, the arrangement and the decoration of long vanished houses of the Sultanant,—it can be said, that they were planned for the climatic conditions and were well adorned. The wrought and ornamented wood-work of the existing houses fills every one with admiration. These are elegant and superb works of art, well suited to the culture and tastes of their inmates.

The Jain and the Hindu works of the same period are also superb. There are over 500 Jain and Hindu

temples in Ahmedabad. Those in Jhaveriwad, in Fattah Shah's Pole and in Khetarpal's Pole have inlaid marble work, and are richly decorated in variegated coloured marbles, like the Agra and Delhi buildings. The Jain Temple of Hatisinh, outside Delhi Gate, and the Hindu Temple of Shri Swami Narayana in the Kalupur ward in the city, are two outstanding examples. The Jain Temple, although not remarkable for its size, can be ranked as an architectural gem. Externally and internally it bears that elegance, which is born from a well proportioned plan and from well proportioned parts. It is rather 'the art of goldsmith'. Jain temples of Ahmedabad defy description, and some of them are, no doubt, notable. The Swami Narayan temple is in decadent Hindu style, and shows western influence.

Of Mughal period, we have two palaces standing and some mosques, the Azamkhan's palace, adjacent to the Bhadra Tower, and the Shahi Bagh palace which is now used as the residence of the commissioner, Northern Division Nawab Sunit Khan's Mosque in Salapos Road is constructed in marble and is the outstanding relic of the Mughal rule. There is hardly any architectural building of the Mahratta period, except a few temples, e. g. the Shiva temple of Bhimnath in Shahi Bagh.

During the century of the British Rule in Gujarat, not a single architectural building is constructed in Ahmedabad by the rulers. The example of rulers is generally followed by the people. The garden bungalow of the Hatisingh's vadi, which faces the Shahi Bagh Road, is a bad copy of the Roman 'classic' architecture, while the residential buildings put up in the late 19th century



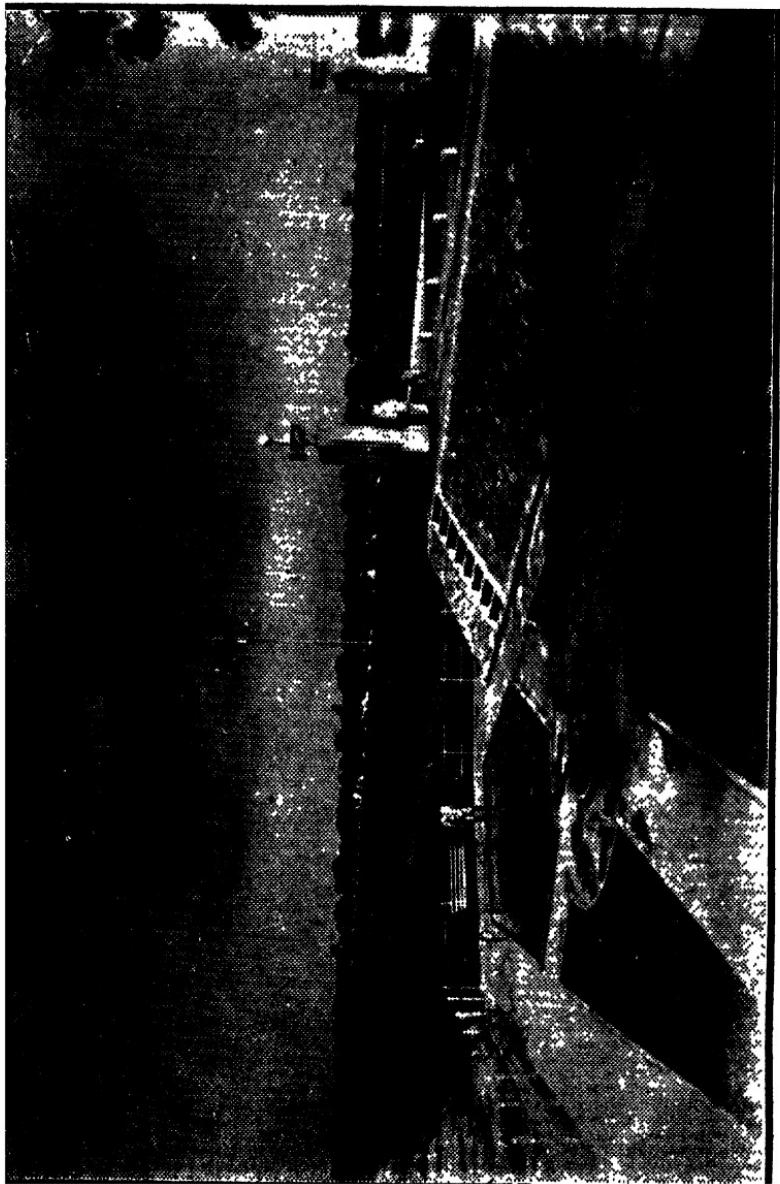
A Balcony showing the Old Woodcarving

and early 20th century are sordid examples of 'Renaissance' architecture of the West.

The post-war period, a period of the dawn of Indian nationalism, a period of the epic events of Mahatma Gandhiji—the dear old Bapuji—has manifested and kindled an unextinguishable fire to achieve our glorious culture which the western education nearly wiped out from our hearts. The impulse and momentum so generated by the freedom movement have imbued us, the citizens of Ahmedabad, with a mighty yearning and determination to find the best in us, and to shake off all the base and lowly things that surround and chain us. This movement has "given a lead to a fresh building activity on the part of the people, who, with a new outlook on life, determined to live a fuller and better life, have started to build their houses beyond the city walls, in the garden and in the vast open lands. The Housing Societies have grown like mushroom; the gardens and the open lands have been transformed into beautiful finely laid-out new garden suburbs. The early attempts, as usual, were clumsy but every year sees homely buildings, planned and tastefully finished both inside and out, producing charming and refreshing homes for the full and healthy growth of our citizens.

The quadrangular edifice, which once housed the great National Institute, the Gujarat Vidiyapith, is a very severe structure, a first attempt to self purification and to self control, an attempt to free us from the debased and decadent phase of the western Renaissance style, and from the worthless copies of French Chateues.

The Concrete age has created vast opportunities for a new mode of construction as the stone and steel did



Sardar Vallabhbhai Bridge over the Sabarmati

in their times. The early attempts may be ugly, but coming events always cast their shadows. Sheth Maneklal Jethabhai Library—popularly-known as 'Gandhi Library'—in the Ellis Bridge Town Planned area, although a small structure shows a definite attempt towards the Indian style of Fatehpur Sikri. The adjacent edifice, erected as the Memorial of Sheth Mangaldas and known as the Town Hall, is an august monument, worthy and befitting but cold and sombre, on the lines of the Pantheon at Rome, a bold attempt to get off from the beaten path. Its architectural qualities may not be recognised by the present-day laity, but to the future generations it would stand out a great serene work, worthy to be associated with the name of one of the great men of our city.

The Municipal Building, the plans of which are well advanced, will soon replace the present ugly structures which house the Municipal Corporation of Ahmedabad. The appearance of the two new Reinforced Concrete Bridges—the Sardar Vallabhbhai Bridge and the Gandhi Bridge—thrown across the Sabarmati river by its City Fathers, would have been beautified and turned into works of Art, had an architect been associated with the civil engineers who designed them. Such is the practice in other countries. The monumental Sydney Bridge in Australia may be quoted as an example.

The buildings recently erected for the new Arts and Commerce College, known as the S. L. D. Arts College and the Hargovinddas Lakshmidhanda Commerce College are two notable structures and vividly bring to our mind's eye our great inheritance, the chaityas of yore where learning and religion were acquired and fostered side by side.

A vast number of school buildings, hospitals, Vyayam Shalas, and public buildings of entertainment, recreation and utility have cropped up within the last ten years. And when the new Kalupur Road opens up the great vista from East to West with new edifices abutting thereon, when in future new Town Planning schemes are introduced to transform the narrow winding lanes and streets, and when the Gandhi Road and Mohammedali Road have new buildings replacing the present old dingy shops and houses, the city of Ahmedabad will put on a new garb and present itself in its pristine grandeur, worthy of its old glory. It is a great vision; let us wait and see its realisation.*

* In writing this article I have freely drawn upon the monumental works of Fergusson, Hope, Burgess and Havell, also the recently published monumental History of Ahmedabad by Khan Bahadur Professor Commissariat, to all of whom my thanks are due. Shriyut Ratnamanirao Bhimrao Jhote was requested to contribute an article on this subject which he wrote in Gujarati. It could not, however, be faithfully translated into English. I beg to acknowledge my indebtedness to him for the enlightenment I have received from his ably written article.



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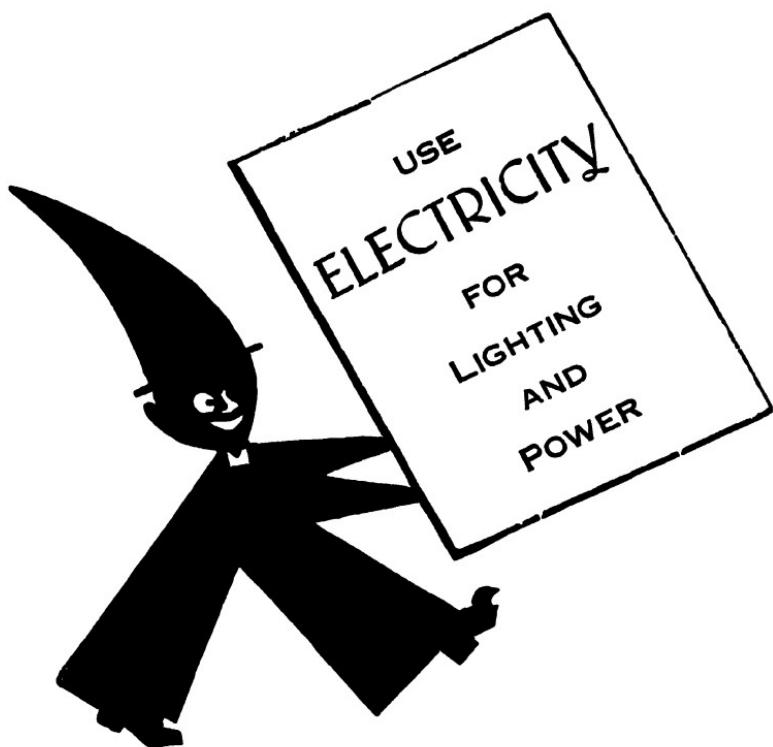
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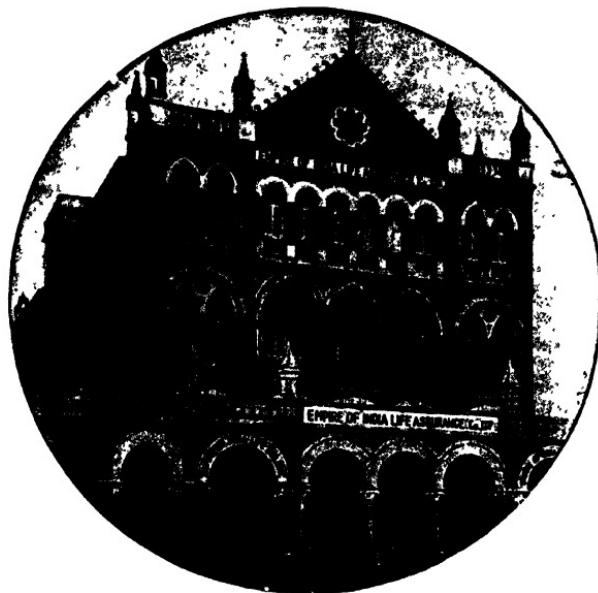
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